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# **Infertility, blame and responsibility in the Hippocratic Corpus**

By

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Submitted in accordance with the requirements for the degree of  
Doctor of Philosophy

The Open University

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# Abstract

This thesis explores infertility in the ancient medical texts. Fertility was a topic of great interest to ancient medical writers and in the last 30 years their views have received considerable attention from modern scholars.

Although the subject of infertility has been discussed within the wider context of fertility, there has been little work that focuses specifically on infertility. In fact, the only work that has begun to analyse infertility in any detail is Rebecca Flemming's 2013 article 'The Invention of Infertility in the Classical Greek World: Medicine, Divinity, and Gender'. Although Flemming's work is a welcome addition to the scholarship, it is only the beginning, and Flemming herself highlights that more research is needed on this topic. The aim of this thesis, then, is to undertake a full-scale study of infertility focusing on the ancient texts. I intend to show that by approaching the ancient medical texts with the question 'what do these texts tell us about infertility?' instead of 'what do these texts tell us about fertility?' the answers, and therefore our understanding of infertility, are very different.

The first half of the thesis outlines what infertility meant to the ancient medical writers by looking at factors such as the language of infertility, its perceived causes and its various treatments. The second half seeks to build on the first by analysing how responsibility for infertility was shared between the couple in both theory and practice. In the final two chapters, I explore how the apparent system of blame and protection associated with infertility is articulated by the Hippocratic authors.

The focus of this thesis is the Hippocratic corpus, most of which dates from the fifth to fourth centuries BC. However, I also consider other ancient authors, particularly the biological works of Aristotle, in order to place the Hippocratic theories into a wider context. In addition, I will consider evidence beyond the ancient medical texts in order to examine possible alternative sources of advice and treatment available to an infertile couple.



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To my friends and family, who have learnt more than they have ever needed, or indeed wanted, to know about ancient views on infertility and the body. Thank you for your continued patience and support.

My final thanks go to everyone who when I told them I was working on infertility in the ancient medical texts replied 'oh well, they would have blamed the women of course' and reminded me what led me to write this thesis in the first place.

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# Abbreviations

<i>Alim.</i>	Hippocrates, <i>Nutriment</i>
<i>Andr.</i>	Euripides, <i>Andromache</i>
<i>Aph.</i>	Hippocrates, <i>Aphorisms</i>
<i>Apr.</i>	Aristotle, <i>Prior Analytics</i>
<i>Arist.</i>	Aristotle
<i>ARTs</i>	<i>Assisted Reproductive Technologies</i>
<i>AWP.</i>	Hippocrates, <i>Airs, Waters, Places</i>
<i>BMI</i>	Body Mass Index
<i>Carn.</i>	Hippocrates, <i>On Flesh</i>
<i>Coac.</i>	Hippocrates, <i>Coan Prognoses</i>
<i>De.loc.aff.</i>	Galen, <i>On the Affected Parts</i>
<i>De.Musc.Dissect</i>	Galen, <i>On the Dissection of Muscles</i>
<i>Decent.</i>	Hippocrates, <i>On Decorum</i>
<i>Dem.</i>	Demosthenes
<i>DW.</i>	Hippocrates, <i>Diseases of Women</i>
<i>Elec.</i>	Euripides, <i>Electra</i>
<i>EN.</i>	Aristotle, <i>Nicomachean Ethics</i>
<i>Epid.</i>	Hippocrates, <i>Epidemics</i>
<i>Epis.</i>	Pliny the Younger, <i>Letters</i>
<i>Eur.</i>	Euripides
<i>Foet.Exsect.</i>	Hippocrates, <i>On Excision of the Foetus</i>
<i>GA.</i>	Aristotle, <i>Generation of Animals</i>
<i>Gal.</i>	Galen
<i>Gen.</i>	Hippocrates, <i>On Generation</i>
<i>Gloss.</i>	Galen, <i>Glossary of Hippocratic Terms</i>
<i>Gyn.</i>	Soranus, <i>Gynaecology</i>
<i>HA.</i>	Aristotle, <i>History of Animals</i>
<i>Hes.</i>	Hesiod

<i>Hist.</i>	Herodotus, <i>Histories</i>
Hom.	Homer
Hp.	Hippocratic Corpus
<i>Iudic.</i>	Hippocrates, <i>On Crisis</i>
IVF	<i>in vitro fertilisation</i>
L.	E. Littré (ed.), (1839-1861) <i>Oeuvres complètes d'Hippocrate</i> , Paris.
<i>Lg.</i>	Plato, <i>Laws</i>
<i>Loc.Hom.</i>	Hippocrates, <i>Places in Man</i>
<i>Long.</i>	Aristotle, <i>Longness and Shortness of Life</i>
LSJ	H.G. Liddell, R. Scott and H.S. Jones, <i>Greek-English Lexicon</i> .
<i>Med.</i>	Euripides, <i>Medea</i>
<i>Mem.</i>	Xenophon, <i>Memorabilia</i>
<i>Morb.</i>	Hippocrates, <i>On Diseases</i>
<i>Morb.Sacr.</i>	Hippocrates, <i>On the Sacred Disease</i>
<i>Nat.Mul.</i>	Hippocrates, <i>On the Nature of Women</i>
<i>Nat.Puer.</i>	Hippocrates, <i>On the Nature of the Child</i>
NICE	National Institute for Health and Care Excellence
<i>Oct.</i>	Hippocrates, <i>On the Eight-Month Child</i>
<i>Od.</i>	Homer, <i>Odyssey</i>
<i>Oeco.</i>	Xenophon, <i>Oeconomicus</i>
<i>Oec.</i>	Aristotle, <i>Oeconomica</i>
<i>Off.</i>	Hippocrates, <i>In the Surgery</i>
<i>Op.</i>	Hesiod, <i>Works and Days</i>
<i>PA.</i>	Aristotle, <i>Parts of Animals</i>
<i>Per.</i>	Plutarch, <i>Life of Pericles</i>
Pl.	Plato
Plu.	Plutarch
<i>Pol.</i>	Aristotle, <i>Politics</i>
<i>Pr.</i>	Aristotle, <i>Problems</i>

<i>Praec.</i>	Hippocrates, <i>Precepts</i>
<i>Prog.</i>	Hippocrates, <i>Prognostic</i>
<i>Prorrh.</i>	Hippocrates, <i>Prorrhetic</i>
<i>R.</i>	Plato, <i>Republic</i>
<i>Salubr.</i>	Hippocrates, <i>On Regimen in Health</i>
<i>Sem.</i>	Galen, <i>On Semen</i>
<i>Sept.</i>	Hippocrates, <i>On the Seven-Month Child</i>
<i>Sor.</i>	Soranus
<i>Superf.</i>	Hippocrates, <i>On Superfetation</i>
<i>Tht.</i>	Plato, <i>Theatetus</i>
TLG	<i>Thesaurus Linguae Graecae</i>
<i>Virg.</i>	Hippocrates, <i>On Diseases of Girls</i>
<i>Vict.</i>	Hippocrates, <i>Regimen in Health</i>
<i>VM.</i>	Hippocrates, <i>On Ancient Medicine</i>
WHO	World Health Organisation
<i>Xen.</i>	Xenophon

## Introduction

μόνη δ' αὐτόθι Ἑλπίς ἐν ἀρήκτοις δόμοισιν ἔνδον ἔμμενε πίθου ὑπὸ χεῖλεσιν.

Only [Hope] remained there in its unbreakable home under the mouth of the storage jar.

(Hes.*Op.*96-97; trans.adapted from Most, 2006, p. 95)

I begin this thesis with a quotation from Hesiod's *Works and Days* which relates how Pandora opened the storage-jar (πίθοι) and released all evils (κακά) into the world leaving behind only Ἑλπίς. Traditionally Ἑλπίς is translated as 'Hope', but it can also signify 'Anticipation' of both bad and good things (Most, 2007, p. 95 n.7).<sup>1</sup> Modern scholars have suggested that the jar in the myth of Pandora can be viewed as representing a woman's womb: the act of opening the jar thus stands for both the breach of a woman's virginity and the dilation of the mouth of the womb that allows the seed of the man to enter. The re-closing of the jar is then symbolic of the closing of the womb after intercourse, which allows the seed to be retained and conception to occur. Following this through the Ἑλπίς that remains can be seen as the child a couple would hope to procreate within a marriage.<sup>2</sup> Fertility and infertility, as we shall see, were subjects both of great interest and concern in antiquity and as much as a child may have been hoped for there was also the anticipation that things could go wrong. This thesis explores the way in which the 'hope' or 'anticipation' for a child in ancient Greece was not always readily fulfilled and the theories and consequences surrounding these events.

The main aim of this thesis is to investigate what the concept of infertility meant to the writers of the Hippocratic Corpus and how infertility fitted into the wider understanding of the body in

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<sup>1</sup> The scholarship on the exact meaning of Ἑλπίς is vast and cannot be discussed here. For the key arguments see Verdenius (1985, p. 66–71). Most scholars do concur that Ἑλπίς is an ambiguous term with both negative and positive aspects (e.g. Pucci, 1977, p. 104–105; Vernant, 1979, p. 121–132; Zeitlin, 1996, p. 64 n.19).

<sup>2</sup> The representation of the womb as a jar-like structure is present in the Hippocratic Corpus and other ancient medical and philosophical texts. The Hippocratic understanding of the structure of the womb will be discussed in chapter 3. The reading of Pandora's jar as a metaphor for the womb has been put forward by many scholars with Zeitlin (1995, cf. 1996, p. 53–86) offering the most detailed analysis of this reading of the myth (other scholars to discuss this include Sissa, 1990a, p. 154–155; and King, 1998, p. 25–26 esp.). However, it is by no means the only analysis of the myth. For example Vernant (1989, p. 73–86) sees the jar representing the household with Ἑλπίς being the woman herself.

antiquity. To do this I shall review the causes of, and treatments recommended for infertility in the ancient medical texts and then use this information to analyse the relationship between infertility and the concepts of blame and responsibility in ancient Greece. The focus on blame and responsibility is not an arbitrary choice: indeed, I shall demonstrate that the link between blame and infertility has a long history. The very need for men and women to procreate as portrayed in the myth of Pandora has its basis in blame. It is Prometheus's action of stealing fire from the gods, that results in the creation of Pandora and in turn, it is Pandora's action of opening the jar that releases all the evils into the world.

Since the 1990s, there have been many studies exploring the sociology and psychology of infertility in the modern world with many of these looking at blame.<sup>3</sup> In modern scholarship on the ancient world scholars describe how women were 'blamed' for infertility; however, there is limited discussion by these scholars on what they actually mean by 'blame'. In this thesis, I will consider whether these assertions are correct and analyse the nature of blame and responsibility associated with infertility in the ancient medical texts and beyond. The aspects of responsibility for infertility to be covered include which partner in a couple was believed to be the source of infertility and the role both patient and doctor took in the diagnosis and treatment of infertility. In relation to blame, my interest lies in whether any person's actions were considered responsible for causing infertility and how the protection from blame is incorporated into the narrative surrounding infertility both inside the ancient medical texts and beyond.

#### Introduction to scholarship<sup>4</sup>

The scholarship on infertility in the ancient medical texts is surprisingly limited. In fact there are only two works which address infertility as their primary concern. These are Rebecca Flemming's (2013) article 'The Invention of Infertility in the Classical Greek World: Medicine, Divinity, and

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<sup>3</sup> The scholarship in this area is vast. The leading figure is Greil (for example 1991a, 1991b) who has produced two reviews of literature (1997; 2010) which detail the developments in this field.

<sup>4</sup> The literature review given here is not intended to be complete. Instead, I offer an overview of the main themes of scholarship surrounding infertility to demonstrate the place this thesis has in the wider scholarship. Finer points of the different debates in scholarship will be discussed at the relevant points throughout the thesis.

Gender' and a short article on male infertility by Michaela Senkova (2015). In her article, Flemming explores some of the causes and treatments for infertility in the ancient medical texts as well as examining the connection between religion and infertility in the ancient world. One of the main aims of Flemming's article is to challenge the claim made by Sandelowski and de Lacey (2002, p. 34) that infertility first began to be thought of as a treatable condition in 1978 only with the birth of the first baby through *in vitro fertilisation* (IVF).<sup>5</sup> Although Flemming's work is a welcome addition to the scholarship, it is only a beginning and Flemming herself highlights that much more research is needed on this topic. Senkova's article is a short piece reviewing the evidence for male infertility in ancient Greece both in the ancient medical texts and beyond. The aim of Senkova's article is to show that male infertility existed as a concept in the ancient world. However, she does not analyse this evidence in any detail as I shall do in this thesis and, as I shall demonstrate, she still under-represents the amount of evidence for male infertility in the Hippocratic Corpus.<sup>6</sup> While infertility has only seldom been the primary focus of modern classical scholars, this is not to say that infertility in the ancient medical texts has not been discussed elsewhere. When infertility is discussed in modern scholarship, however, it is most often as a by-product of an analysis of other areas such as health, fertility and conception. In addition, modern scholarship looking at fertility and reproduction in the ancient medical texts has mainly concentrated on the female role in reproduction rather than the male.

The scholarship that explores issues relating to fertility and infertility has developed out of an interest in the gynaecological treatises of the Hippocratic Corpus, which began in the middle of the last century. The study of ancient gynaecology is now a well-established area of scholarship. The field was led by Lesley Dean-Jones, Ann Hanson and Helen King in the 1980s and 90s. Their work focused on the Greek medical writers especially treatises in the Hippocratic Corpus.<sup>7</sup> These

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<sup>5</sup> There is a more detailed analysis of this claim and its implications in chapter 1.

<sup>6</sup> Senkova states that reproductive failure in men is only mentioned in two Hippocratic texts *AWP*.20-21 L.2.73-77 and *Aph*.5.63 L.4.556.3-7. She does not state what she constitutes as 'reproductive failure' but as I shall show, although the discussions of male infertility are limited, they are more extensive than Senkova suggests.

<sup>7</sup> Examples include Hanson (1990, 1991, 1998); Dean-Jones (1989, 1991, 1992, 1994a, 1994b, 1995); King (1983, 1990, 1993, 1994, 1995a, 1995b, 1998). All of these focus on the presence of women and their afflictions within the ancient medical texts.



scholars not only examined the ancient gynaecological texts but also used these texts to discuss the lives of women in antiquity more broadly.

Before the work of such scholars, the treatises devoted to women had received little attention despite the fact that they form a major part of the Hippocratic Corpus. There is no definitive reason why the gynaecological treatises were effectively ignored for so long.<sup>8</sup> Dean-Jones (1994b, p. 1–2) has suggested that the reason the gynaecological medical texts had been all but excluded from the study of ancient medicine in the early part of the twentieth century, was because the aim of those studying these texts was to show how ancient theories fitted into modern ones and to show which part of the texts were correct and which were not.<sup>9</sup> She says this foregrounding of the modern led to more interest in those texts which appeared to be more ‘rational’ and the gynaecological texts were not considered to be ‘rational’. However, when the interest in the ancient medical texts moved away from this analysis towards exploring how ancient Greek medicine was shaped by social ideologies, the gynaecological texts became much more central to studies of ancient medicine. Whatever the reason for this earlier lack of interest, as G.E.R. Lloyd (1983, p. 59) has stated, ‘the simple fact remains that it would be difficult to find any other field of Hippocratic studies where such rich sources of evidence have been, for so long, so unexploited’. This interest in ancient gynaecology and the female body also followed on from, and indeed complemented, the interest in women in antiquity in general which began in the 1970s and has continued through to the present day.<sup>10</sup>

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<sup>8</sup> Hanson (1990, p. 311) has traced this lack of interest as far back as the early seventh century AD to Stephanos Philosophos, a lecturer at Alexandria and commentator on the Hippocratic texts. Stephanos advised his students to read the treatises of *Diseases of Women* last of all as its only concern was of women’s diseases and he discusses only one part of the body, the uterus.

<sup>9</sup> Dean-Jones (1994b, p. 1) gives examples such as Jones (1946) and Singer (1957).

<sup>10</sup> The majority of the scholarship was published in the 1980s and 1990s. Pomeroy began this trend with her book *Goddesses, whores, wives and slaves* (1975) and in 1984 the interest in the history of women was cemented with a special edition of *Arethusa* entitled *Women in the ancient world: the Arethusa papers*. This is not to say that women in ancient society were completely ignored up until this point, as there was a small amount of scholarship on women in the early part of the century for example Gomme’s (1925) paper ‘The position of women in Athens in the fifth and fourth centuries BC’ and Seltman’s (1956) book *Women in antiquity*. But these works were rare and it was only in the 1970’s that women in antiquity and especially women’s bodies were subjected to any detailed analysis. See Foxhall (2013) chapter 1 for a detailed analysis of the development of scholarship on gender in antiquity.

In general, discussions on the female body in ancient medical texts have focused on the importance of menstruation and reproduction to the female body and the treatments for diseases which can be caused by a suppression of the menses or lack of reproduction in the female body. This approach has been driven by the contents of the ancient medical texts themselves, especially the Hippocratic texts where, when a woman is explicitly mentioned, the condition she is suffering from is more often than not either caused by, or at least manifests itself through, the abundance or lack of three things: menstruation, pregnancy or sexual intercourse. Often the treatments and cures for these diseases can also be linked to these three areas.

One of the key discussions in this field has concerned how ancient medicine understood the nature of the female body and the role of menstruation. In the ancient medical texts, menstruation was not just a sign of fertility in a woman but was also thought to be essential to her overall health. If women were of an age where menstruation should occur and were not pregnant or breast feeding, then they should be regularly menstruating. The reason for this is that women have a completely different physiology to men in both their flesh and their function (King, 1985, p. 126, cited in 1998, p. 11; cf. Dean-Jones, 1994b, p. 85). Women are not only colder than men but their flesh is described as 'sponge like' by the Hippocratic authors (*DW*.1.1 L.8.12.6-22); this results in women retaining more fluid from their diet which is then removed through menstruation. If menstruation does not regularly occur then menstrual blood is retained in the body and this will lead to illness or even death (e.g. *DW*.1.2 L.8.18-22). The scholarship on ancient gynaecology is used in this thesis to inform our understanding of how ancient physicians perceived the female body especially concerning the role of menstruation for both the health of the woman and her fertility.

As this review of scholarship has intimated, male fertility has not received the same attention that female fertility has had in modern scholarship. Modern scholars have even suggested that male fertility, and especially male infertility, is not really discussed in the ancient medical texts. Blundell (1995, p. 105), for example, proposes that 'there is little recognition on the part of the medical writers that failure to conceive may be caused by infertility in the male partner', although she does then go on to say that medical treatises contain advice on reproductive health for men. Similarly, Byl (1990, p. 309) has claimed that infertility is 'the disease of women, par excellence'.

Michaela Senkova's (2015) article suggests that this may be changing but her survey is only a beginning. As I shall demonstrate, male infertility was in fact recognised in the ancient world, including by the writers of the Hippocratic Corpus. Therefore, one of the wider aims of this thesis is to examine the evidence that is available for male infertility. I will also consider why male infertility, although recognised by the ancient authors, is not discussed in the same amount of detail in either the ancient medical texts nor in modern scholarship.

Most of the scholarship that discusses infertility in the ancient world has stemmed, then, from a wider discussion on fertility or the female body and this, I believe, may have distorted our understanding of infertility in these texts. In this thesis, I intend to show that by reworking our approach to the ancient medical texts and instead of looking at what these texts tell us about fertility ask the question 'what do these texts tell us about infertility?' the answer, and therefore our understanding of infertility, are very different.

#### Introduction to the ancient sources

The primary focus of this thesis is on the descriptions of infertility given in the Hippocratic Corpus. The choice of the Hippocratic Corpus as the cornerstone of this thesis has been made in part because these texts represent the largest collection of evidence for ancient medicine prior to Galen's writings of the second century AD. The second reason is due to limitations of space: focusing on one group of sources allows a more detailed analysis to take place than a study of multiple authors and texts.

The group of texts that have become known as the Hippocratic Corpus are made up of around 60 medical treatises all of which are in the Ionic dialect but differ in length, content and style. No single ancient manuscript of every treatise in the collection survives today and many only include a small selection of the works. The corpus as we know it today can only be traced back to 1526 when the first edition of the complete works of Hippocrates was published in Greek by a press in Venice (Nutton, 2012, p. 60).

The majority of the treatises in the Hippocratic Corpus are dated to the fifth and fourth centuries.<sup>11</sup> The authorship of these treatises, the so-called ‘Hippocratic question’, has been debated since antiquity. The main questions in this debate include which works, if any, were written by Hippocrates himself, and which works may have shared the same author.<sup>12</sup> Celsus, a medical writer in the first century AD, and Galen, a second century physician, both address the question of the authorship of these texts with the latter writing a now lost text entitled *On the Authentic and Illegitimate Writings of Hippocrates*. Although this particular work is lost, the writings of Galen, particularly his commentaries on Hippocratic texts and a glossary of rare words in Hippocrates, have helped to guide modern scholars on which works were considered Hippocratic texts in antiquity. The other key source in the Hippocratic question is a reworked and simplified version of a Hippocratic glossary by the physician Erotian from the first century AD. The list of treatises given by Erotian and those mentioned by Galen may provide a rough guide to which texts may have originally formed the Hippocratic Corpus and which texts were added later but they are by no means infallible.<sup>13</sup> By the end of the twentieth century seeking an answer to the ‘Hippocratic question’ was largely abandoned as the traditional criteria for pronouncing a work as a genuine ‘Hippocratic’ text came under increasing scrutiny (Craik, 2015, p. xxi–xxii).<sup>14</sup> As it is highly unlikely that these texts were written by one person, scholars now generally agree that there were multiple authors, some of whom may have written more than one text and indeed

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<sup>11</sup> Some of the treatises within the corpus are now thought to be much later in date; for instance, the text *Decent* is now thought to be from the first or even second century AD (Nutton, 2012, p. 61).

<sup>12</sup> The question whether there was a ‘historical’ Hippocrates who had a relationship to what is now known as the Hippocratic Corpus has been much debated. The man who is often cited as the historical Hippocrates was a doctor born on the island of Kos around 460 BC who died in Thessaly between 375 and 351 BC. However, there is little or no evidence to suggest that this man had a hand in writing the Hippocratic Corpus. For an overview of the evidence of a historical Hippocrates see Jouanna (1999, esp. p. 3–41).

<sup>13</sup> For example, Galen considered the text *Alim* to be typically Hippocratic and frequently cites this work. However, this text is now thought to have been written later than the fifth and fourth centuries when most of the treatises are believed to have been composed, and also to have been influenced by Stoicism (Jouanna, 1999, p. 62).

<sup>14</sup> In the middle of the twentieth century, the debate moved on from identifying individual writers to a broader classification of which texts came from the two main medical centres, Kos and Knidos. However, this type of analysis has now also been largely abandoned. For key arguments see Lonie (1965, 1978) and Jouanna (1974).

treatises that may have had more than one author.<sup>15</sup> The standard edition of the Hippocratic Corpus used today remains Émile Littré's Greek-French parallel text edition of 10 volumes published from 1839-1861.<sup>16</sup>

The corpus covers varying aspects of medicine, including treatises which offer descriptions of diseases and conditions including their causes and treatments, such as the books of *Diseases of Women* and *On Fractures*. The books of *Epidemics* give evidence of diseases through case studies of conditions in particular patients<sup>17</sup> whereas other texts offer a largely theoretical view of the workings of the human body; these include the treatises *On Generation* and *On the Nature of the Child*. Texts such as *Aphorisms* and *Coan Prognoses* are short easy-to-remember sentences that were perhaps used for teaching.<sup>18</sup> As Vivian Nutton (2004, p. 62) has noted 'no generalisation can cover all the texts, and no summary do more than hint at the multiplicity of (often conflicting) theories they contain'.

Although I will consider evidence from the entire Hippocratic Corpus in this thesis, several key treatises are of particular interest and provide most of the evidence for the Hippocratic view of infertility. The treatises which are perhaps most important to my study are often grouped together by modern scholars under the title 'gynaecology treatises' (see for example Craik, 2015, p. xxvii). These include the twin texts *On Generation* and *On the Nature of the Child*, *On the Nature of Women*, *On Superfetation*, *On Diseases of Young Girls* and the treatise that will be the focus of much of this study: the three books of *Diseases of Women*.<sup>19</sup>

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<sup>15</sup> For a good overview of the arguments and debates surrounding the Hippocratic question see Lloyd, (1975), Jouanna (1999, p. 56–71) and Nutton (2012, p. 53–71).

<sup>16</sup> All citations from the Hippocratic Corpus in the thesis will include the standard referencing to the page and line number of Littré.

<sup>17</sup> The exact purpose of the books of *Epid.* has been debated in modern scholarship. These case studies maybe notes from which theories develop, or notes that demonstrate existing theories working in practice or simply notes to self (See Hanson, 1989; Langholf, 1990 for an overview of the main arguments).

<sup>18</sup> For an overview of the contents and context of each of the treatises in the corpus see Craik (2015) and Jouanna (appendix 3 1999, p. 373–416).

<sup>19</sup> Treatises included in this group of gynaecological treatises are: *Foet. Exsect.*, *Sept.* and *Oct.* I have excluded these from any analysis here as they provide limited direct discussions of infertility. However, I shall refer to aspects of these texts when relevant. Many non-gynaecological treatises provide information

The treatises *On Generation* and *On the Nature of the Child*, although generally appearing as two distinct texts in the manuscript tradition, are actually continuous in their content (Craik, 2015, p. 114) and it is believed that they were once joined together in a single treatise (Hanson, 2013, p. 738).<sup>20</sup> The first text explores the process of conception including the materials needed for this to occur and an explanation of why a child resembles its parents. The latter text moves on from conception to the formation and development of the foetus.<sup>21</sup> It is generally believed that these works are by the same author as *Diseases IV* (Jouanna, 1999, p. 392)<sup>22</sup> and it has also been suggested that the author of these texts may have been responsible for other parts of the gynaecological texts. Craik (2015, p. 117) suggests that the case for this common authorship is strengthened by an instance of cross-referencing where in *On Generation* and *On Nature of the Child* (4 L.7.476, 15 L.7.496) the author expresses in the future tense their intention to write on diseases of women. Then in *Diseases of Women* (1 L.8.10, 44 L.8.102.73 L.8.156) there are references in the perfect tense to the author's writing of *Nature of the Child*. These texts are believed to date from the fifth century BC with Craik (2015, p. 118) suggesting they may date to the period 430-420 BC.

At first glance, the text *On Superfetation* may seem a strange choice of key treatise for a study of infertility. The text itself primarily discusses the phenomenon of superfetation where a second foetus is conceived during an already established pregnancy and thus two children conceived at different times are produced from one pregnancy.<sup>23</sup> However, the author also discusses causes of infertility, signs of conception and fertility regimens. Although this text does not appear in

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either directly or indirectly on the subject of infertility. Other important treatises for this study include *AWP.*, *Aph.*, *Epid.1-7*, *Coac.Prog.* and *Prorrh.1-2*.

<sup>20</sup> Potter (2012, p. 3, 27) suggests otherwise, citing Galen's assertion that these texts were not seen as one but two distinct texts. Hanson (2013) provides an excellent rebuttal of this argument.

<sup>21</sup> See chapter 1 for a detailed discussion on this text and the Hippocratic theory of how conception occurred in both this treatise and the wider corpus.

<sup>22</sup> Littré (1851, vol.7, p.461) even considered this text as a continuation of *Nat.Puer.*

<sup>23</sup> There is a belief in modern medicine that this is a very rare but recognised phenomenon in humans. However, many doctors believe this does not occur and cases which have been identified as superfetation can be explained by differences in the development of the twins. See Tarin et al. (2013) for an overview of current medical thinking on this issue.

Erotian's list, because of the presence of passages which are parallel to those in *On Diseases of Women* and *On the Nature of Women* it is generally considered as forming part of the group of gynaecological treatises (Jouanna, 1999, p. 414). A date of the middle of the fourth century BC has been suggested for this text (Craik, 2015, p. 254–255).

The treatise *On Diseases of Young Girls* is short and its primary concern is to express the importance of marriage and the procreation of children for the health of young unmarried women and the diseases which can result if these roles are not fulfilled in a timely fashion. The author also notes that married women without children, too, can be affected by such diseases and it is in this statement that my interest in this treatise lies. The dating of this treatise is given by Craik (2015, p. 279) as the late fifth or early fourth century BC, but as Jouanna (1999, p. 385) notes this treatise bears little resemblance to the other gynaecological treatises and does not appear in Erotian's list.

*On the Nature of Women* is a text which looks at many aspects of diseases found in women: this includes giving multiple causes and treatments for various aspects of infertility. Almost all of the discussions in this treatise can be found in other works. Craik (2015, p. 217) suggests that the author of *Nature of Women* does not draw material from elsewhere but instead passages from this text have been copied and placed into other treatises.<sup>24</sup> However, Jouanna (1999, p. 401) suggests that the ancient material was perhaps edited by a late epitomizer and remarks that the treatise is mentioned by neither Erotian nor by Galen. Craik (2015, p. 217) suggests that the date for at least part of this text is mid-fourth century BC as there is mention of a drug named after Philistion, a physician of the same name practising medicine at this time.

The set of treatises which provide the most evidence for the understanding of infertility in the corpus are the three books of *Diseases of Women*. Littré gives these three books consecutive numbering (book 1.1-109, 2.110-213 and 3.213-249) but the exact relationship between them is not clear. Books 1 and 2 are named as *Diseases of Women* (γυναικεῖων πρῶτον), but the third

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<sup>24</sup> Some of these repetitions appear in isolation and others in blocks. For example *Nat.Mul.*4 = *DW.*2.143 L.8.316 and 3.247 L.8.460.

book has the title *περὶ ἀφόρων* traditionally titled as *On Barrenness* or more frequently today as *On Sterile/Infertile Women*.<sup>25</sup> Erotian has a work called *περὶ ἀφόρων* in his preliminary list and Galen uses the same title but both attribute the title to only the third book. Craik (2015, p. 204; cf. Jouanna, 1999, p. 385) suggests that this may mean that in late antiquity the third book was transmitted separately to the other two works.<sup>26</sup>

Each of the books explores various problems of the female reproductive system and describes the causes and treatments for such conditions. There are also discussions of pregnancy and childbirth and, most importantly for this study, the problems associated with infertility. As the title may suggest, the third book outlines the most detailed descriptions of the ancient understanding of fertility issues. However, this book also covers issues of pregnancy, childbirth and other disorders of the reproductive system and the other two books contain accounts of infertility. The dating of these books is difficult and the composition was probably a lengthy process. It is generally believed that some of the material dates from as early as the mid-fifth century BC with re-writes dating to the fourth century BC (Jouanna, 1999, p. 386). Therefore, the most accurate date which can be given is simply to say from the late fifth century or early fourth century BC (Craik, 2015, p. 204).

As is evident from this brief overview of the Hippocratic Corpus and the individual treatises, dating, ordering and the collating of treatises into groups is neither straightforward nor in many cases even possible. The Hippocratic Corpus is unusual; as Craik (2015, p. xxi) states it ‘differs fundamentally to other prose writers such as Galen and Aristotle where common authorship is generally taken for granted or questioned in a only a few cases’.<sup>27</sup>

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<sup>25</sup> It is believed that most of the titles of the Hippocratic texts were added not at the time of writing but at a later, often undeterminable date, therefore the titles can only offer limited guidance. The variation in the modern translations of the title of book 3 of *DW* is discussed in detail in chapter 2.

<sup>26</sup> Flemming (2013, p. 570 cf. note 19) notes that in the ancient world they were considered to be distinct books and the numeration was simply to distinguish two texts of the same title.

<sup>27</sup> One of Aristotle’s works which offers important information on infertility is one of these exceptions. The debate on whether book 10 of *HA* was written by Aristotle or added to the other books of the text later continues unabated. The reasons for doubts over authorship include differences in both style and grammar but also a key difference in theory revolving around what material a woman provided towards conception (see chapter 1 for details on ancient theories of conception). See van der Eijk (1999) and Dean-Jones (2012) for good summaries of the key arguments. Although I will make use of book 10 in this thesis, due to these



The question of how to approach such a varied corpus written over at least two centuries, with many different authors and in more than one geographical place is not easily answered and here is certainly not the place to attempt such an analysis. However, how I plan to approach these texts in this study is worth considering. Helen King (1998, p. 21) has stated that ‘creating an overview of “Hippocratic gynaecology” is an artifice which always risks falsifying its object; however, even in antiquity an attempt was made to define the main characteristics of a Hippocratic approach to the body’. King further notes, agreeing with Hanson (1997, p. 307), that, despite the disparity of the sources, there is enough agreement, particularly in the treatises *Diseases of Women*, to make an attempt at an overview worthwhile. I will endeavour to follow a similar approach to the study of infertility in this thesis. While no claim can be made of a definitive ‘Hippocratic theory’ lying behind all the causes and treatments of infertility, it is at least possible to find common themes and points of reference in the understanding of infertility in these texts, and to attempt to understand these in the wider context of the ancient world.

Like the majority of the treatises in the Hippocratic Corpus, the ‘gynaecological treatises’ appear to date to the fifth and fourth centuries BC. As medicine does not operate alone and is part of a wider literary and social tradition, I shall focus on this time period while also looking at evidence outside the Hippocratic texts. When evidence comes from a treatise believed to be outside of this period, I will endeavour to highlight this. Similarly, as the corpus is a work of multiple authors there is not always consensus on some theories and treatments across different treatises. Key differences, such as those in the case of theories of conception, will also be noted. While the Hippocratic Corpus cannot be taken as a coherent whole neither should it be taken as simply a collection of individual treatises with no relation to one another. Taking a middle ground is the best and perhaps only way in which to approach the Hippocratic Corpus when exploring both infertility and other aspects of what has become known as Hippocratic medicine.

One final important point to make here is that although the gynaecological treatises have now received much attention from scholars, some of the key treatises are yet to be translated into

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issues I shall highlight evidence from this book and ensure the differences between this book and other Aristotelian works are clearly indicated.

English. G.E.R. Lloyd (1983, p. 58) stated that, of the gynaecological treatises, ‘several...have still, in 1983, never been translated into English, and many have no critical modern edition and commentary in any language’; over thirty years later, we find ourselves only marginally further forward. When Lloyd made this statement, what remains the only English translation of passages in *Diseases of Women* book 1 by Ann Hanson (1975) had already been published.<sup>28</sup> It was only in 2012 that an English translation of *Diseases of Women* book 3 was produced by Paul Potter for the Loeb Classical Library series. There remains no full translation in English of book 2 of *Diseases of Women*. As these treatises have now been the focus of many studies there are, of course, translations of key passages within these works, but full translations and commentaries of these texts are not available.<sup>29</sup>

Although the primary focus of this thesis is the Hippocratic Corpus, I shall also use other medical and biological works both as supporting and comparative evidence. The primary author outside the Hippocratic writers to be discussed in this thesis is Aristotle. The biological works of Aristotle - *Generation of Animals*, *History of Animals* and to a lesser extent the text *Parts of Animals* - are our best source of evidence for ancient views of reproductive disorders outside the Hippocratic Corpus. Aristotle lived and wrote in the fourth century BC (384 -322 BC) and is therefore contemporary with at least some of the treatises of the Hippocratic Corpus. Traditionally thought of as a philosopher, Aristotle sits outside the modern understanding of what constitutes a medical writer. However, in antiquity the boundaries between medicine and philosophy were not as solid as they are perhaps today. Nevertheless, it should be said that where the Hippocratic writers often write from the point of view of practising doctors, Aristotle’s works belong mainly in the theoretical realm. Aristotle offers us a different understanding of fertility and infertility in ancient Greece and one that is invaluable to this study. One particularly important aspect of Aristotle to be considered is how the theory of conception he outlines compares to the Hippocratic writers

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<sup>28</sup> The only full translation of this treatise I have found is an unpublished MA thesis by Whiteley (2003).

<sup>29</sup> The other key texts *Gen.* and *Nat.Puer.* were translated with an accompanying commentary by Lonie (1981) and then by Potter (2012) in the same Loeb volume as book 3 of *DW*. Also in this Loeb volume was a translation of *Nat.Mul.* and a French translation of this text was published previously by Bourbon (2008a). A translation of the text *Virg.* was published by Hanson and Flemming (1998) and then in a Loeb volume by Potter (2010) with a translation of *Superf.* in the same volume.

and leads to a different emphasis on male infertility in Aristotle's work compared to the Hippocratic writers. Where possible I shall consider other medical writers whose works have only been preserved in fragments such as the fourth century physician Diocles of Carystus. Where relevant I shall also consider the work of later authors such as Soranus (writing in the first century AD) and Galen (whose works date from the second century AD).

Although this thesis focuses on the ancient medical understanding of infertility, I shall also include relevant evidence from beyond the ancient medical texts, particularly in the second part of this thesis when addressing the issues of responsibility and blame associated with infertility. Here I shall consider evidence from healing sanctuaries and oracles in order to explore 'alternative' treatments available to couples and I will also explore the viewpoints of authors such as Herodotus, the orators and perspectives provided by classical drama.

#### Overview of structure and chapter outlines

As stated above, this thesis is arranged into two parts. The first investigates what the concept of infertility meant to the ancient medical writers including the theories, causes and treatments of infertility. The second part offers an analysis of the relationship of blame and responsibility to infertility.

In chapters 1 and 2, I introduce the ideas that underpinned the ancient Greek understanding of infertility. Our assumptions about what infertility meant to the ancient Greeks often derive from what it means to us today, so chapter 1 will begin with a brief discussion of the modern terminology of infertility and explores the definitions of key words including 'infertility' itself, as well as 'barren' and 'sterile'. I then turn my attention to how the concept of infertility was understood in the ancient medical texts by discussing the theories of conception and where the boundaries of fertility were believed to be (that is, who was expected to be able to have children).

In chapter 2, the focus changes from the theories and definitions of infertility to the language of infertility. I first consider the problems of translating ancient medical texts into modern languages. There are two key points to be discussed, first the problem of using modern medical terms to explore an ancient understanding of the body and the uses of the terms 'barren', 'sterile' and

‘infertile’ in translations of the ancient texts. In the second half of the chapter, there is a detailed analysis of the different ancient Greek terms used to express reproductive failure and discuss how these terms convey a different meaning depending on their context and positioning alongside other words.

In chapters 3 and 4, I explore the various causes and treatments associated with infertility in the ancient texts. Chapter 3 looks at diseases that were thought to affect fertility; the focus is on the female reproductive system, but in the final section I shall explore the evidence of male infertility. While chapter 3 focuses on the internal causes of infertility given by the ancient medical writers, chapter 4 explores external factors, such as environment and climate, and how what today are termed ‘lifestyle factors’ such as diet and activity were believed to effect fertility. In this chapter I also explore how obesity was believed to cause fertility problems.

In the second part of the thesis, I use the causes and treatments of infertility outlined in part 1 as a basis from which to look deeper at the underlying themes associated with infertility. Chapters 5 and 6 explore responsibility for infertility. Chapter 5 explores how in the theories associated with infertility responsibility was split between the male and female partner. This chapter addresses the often-stated belief that male infertility is not represented in the ancient texts and its counterpart claim for a hyper-concern regarding female infertility. I suggest that male infertility is not only something which the ancient medical writers in fact acknowledge but also that there is enough of this evidence to analyse the differences in male infertility put forward by the Hippocratic writers and Aristotle and compare the accounts of male and female infertility given by these authors.

While chapter 5 focuses on the theory of responsibility for infertility in a couple, chapter 6 explores this on a practical level and also considers the responsibility of the doctor in a couple’s fertility. In the first section I examine the evidence for Hippocratic physicians either becoming involved, or wanting to become involved, in a couple’s quest for a child even before any concern for fertility was detected. In the rest of this chapter I explore how the couple themselves may have shared responsibility for fertility problems. As there is little evidence for the patients themselves in the ancient medical texts I turn my attention to other avenues that a couple could explore when

fertility issues became a concern. Here I focus on healing sanctuaries such as the temples of Asclepius and the seeking of advice from oracles. The evidence from healing sanctuaries and oracles can help us understand whether the couple sought advice together or whether one partner took responsibility for the couple's fertility.

Finally, in chapters 7 and 8 I explore blame for infertility in the ancient texts. In chapter 7 I focus on where blame for infertility is found, particularly in the Hippocratic Corpus, and how when blame is used it is only in specific circumstances that we also find repeated across the corpus. As I shall show blame for infertility is surprisingly rare and in chapter 8 I look at the reasons why blame for infertility may have been limited and the ideas surrounding distancing and protecting both infertile couples and their doctors from any accusations of blame.

I shall particularly focus on the misconception that blame and responsibility for infertility was placed solely in the female sphere and instead show that the male partner could also be held responsible for the couple's infertility. Indeed, both men and women were afforded a certain amount of protection from accusations of blame for their infertility both in the ancient medical texts and in wider ancient society.

## Part 1.

Infertility and its causes and treatments.

## Chapter 1.

### Defining infertility

Infertility in its simplest form is the inability to produce a living child from procreation; that is, the inability to complete the entire process of producing a child. It is not limited to either partner being unable to produce the required material for conception, or indeed the ability or inability to conceive a foetus, but extends to the ability in the female to nurture that foetus throughout gestation to the production of a live child. Should any stage in this process not be completed an individual may be considered infertile.

This simple definition of infertility is only part of the story of how infertility is defined and what it means to be infertile. Infertility is only one word that is used to describe this phenomenon in the modern world, with ‘sterile’ and ‘barren’ being among the other words used. In addition to numerous terms for fertility problems, there are potential differences in the meaning of a word depending on the person using it; for example, a medical professional may use a term differently to a lay person. The use of these terms does not remain static; instead, their popularity and meanings develop alongside medical understanding of the body and the social perception of infertility.<sup>30</sup> Similarly, in the classical world there were many different terms used to describe the inability to produce a living child. In ancient Greek two terms used to express fertility issues were ἀγονός and ἄτεκνος and, as I shall show in chapter 2, there were many more. As in modern English, so in ancient Greek: words used to describe infertility have slightly different meanings and uses and, although at times they may be used interchangeably, some of the words have a very specific meaning and use.

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<sup>30</sup> Jensen (2015) gives an analysis of the use and change of meanings of words such as barren, sterile and infertile from the mid-seventeenth century through to the twentieth century and how these changes were affected by changes in medicine and the way the body was viewed. He (2015, p.27) describes how ‘[o]ver the last few centuries, the terms “barren” and then “sterile” have functioned as metaphorical predecessors to “infertile,” serving – at certain historical moments – as common denotations for women’s inability to become pregnant or bear healthy children’.

Because modern assumptions of how the body works and what terms such as 'infertility' mean affects our understanding of the views of the ancient medical writers, before considering what the concept of infertility may have meant to the ancient medical writers. I believe that we need to understand what infertility means in the modern world. This includes appreciating the nuances of the key terms used to express the idea that people are unable to reproduce. These nuances may differ between medical authorities and the general population. As there is a gulf between the modern and ancient understanding of the body underlying the terminology, the question arises as to whether it is even possible to talk of 'infertility' as a concept which can be discussed in relation to the ancient authors. Of course, in some ways, we have little choice; if we wish to discuss the views of the ancient medical writers in English then we need to use modern language to make our points. Often to understand exactly what we are discussing when we talk of 'infertility' the modern definitions need in effect to be 'stripped-back' to allow us to use them with reference to the ancient texts.

In addition to understanding the modern terminology surrounding infertility, before embarking on a study of infertility in the ancient texts it is important to understand what fertility meant to the ancient medical writers. Therefore the second half of this chapter will discuss the theories of conception given by the Hippocratic writers and, to place these into context, I shall outline the other theories of conception that survive from other authors, particularly those given by Aristotle in his biological works. In the final section I turn my attention to the boundaries of fertility; that is, who the ancient writers considered to be fertile with a particular reference to age. The aim of this chapter, then, is to provide the basic building blocks to allow me to analyse infertility in the ancient medical texts.

#### Modern definitions of infertility and its associated words

Infertility is the most commonly used term today both in the medical profession and by the general population to describe a person or couple who are unable to conceive a child or, more widely, for those who have not been able to carry a child to full term. The simplest definition of fertility is the ability to produce a live child from procreation. Infertility on the other hand is the inability to



perform this task, whether it is the inability to perform the act of intercourse itself or produce the required materials for conception, or in the case of women, to carry a child to full term. The modern medical definitions of infertility can be very specific. The World Health Organisation (WHO) has given the clinical definition of infertility as:

A disease of the reproductive system defined by the failure to achieve a clinical pregnancy<sup>31</sup> after 12 months or more of regular unprotected sexual intercourse.

(WHO et al., 2009, p. 2686 *Revised Glossary on ART Terminology*)

This definition is time-bounded; infertility is the inability to achieve a pregnancy, which is further defined as one identifiable by an ultrasound, after one year.<sup>32</sup> It is also worth noting here that WHO defines infertility as ‘a disease of the reproductive system’; however, there is debate within both medicine and sociology as to whether infertility should be seen as a disease in its own right or a symptom of a disease. In chapter 4, I shall return to this debate and discuss whether infertility was considered to be a ‘disease’ by the writers of the Hippocratic Corpus.

In modern terminology there is also a distinction made between types of infertility. Infertility can fall into two categories: primary, and secondary. Primary infertility is used to describe those, either individuals or couples, who have never been observed to conceive. Conversely and differing from the simple definition of infertility given by WHO, secondary infertility is diagnosed in couples if a pregnancy has been achieved, whether or not this pregnancy has produced a live child. Secondary infertility would therefore be diagnosed if a woman had previously given birth to a child but is unable to conceive further children. A woman would also be considered to have secondary infertility if she had ever had a miscarriage, if that pregnancy

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<sup>31</sup> A clinical pregnancy is defined by WHO (2009, p. 2685) as ‘a pregnancy diagnosed by ultrasonographic visualization of one or more gestational sacs or definitive clinical signs of pregnancy. It includes ectopic pregnancy’.

<sup>32</sup> Although the usual amount of time given here is one year, the figure of two years is sometimes given. In the UK, clinical guidelines stated a timeframe of two years of regular unprotected intercourse (NICE, 2004, p. 10) until new guidelines were released in 2013 and the figure was changed to one year (NICE, 2013, p. 9). It is also worth noting that although most couples will only be investigated for infertility after a year, clinical guidelines suggest that common sense should be used. Ledger (2013, p. 265) states that in cases where, for example, a woman has lost both Fallopian tubes because of ectopic pregnancy or in a male who has had a testicular torsion investigations should take place sooner.

has been confirmed by a chemical pregnancy test, or undergone a voluntary termination or delivered a still-born child (Ledger, 2013, p. 265).

In addition to the term infertility, modern discussions use other words and phrases to describe a couple's childlessness, including 'sub-fertile', 'involuntary childlessness', 'sterile' and 'barren'.<sup>33</sup> Sub-fertile is a relatively new term but one which is increasingly used in modern medicine; it refers to an individual who may have previously been labelled infertile but is potentially able to conceive, albeit with some difficulty. The term sub-fertile is most often used in couples where one partner has a fertility issue that makes them less likely to conceive but where the other partner is considered fully fertile. For example if the male partner has a lower than average quality of sperm but the female partner is considered highly fertile, the female partner may compensate for the male and conceive without difficulty. The same can be the case if it is the female partner with fertility issues and the male partner is considered fully fertile (Ledger, 2013, p. 265).

Another term that is used in association with infertility is 'involuntary childlessness'. The term is used to describe those who wish to conceive but who cannot do so, thus going beyond medical infertility and encompassing couples in whom conception through intercourse is not possible, for example, those in a same-sex relationship. The contrasting term of 'voluntary childlessness' is used to describe those who have decided they do not wish to have children; perhaps for social, economic or psychological reasons. Inhorn & van Baden (2002, p. 6) have described this term, and indeed the idea itself, as developing from the feminist revolution of the 1960s and 1970s which in part led to many women, and their partners, choosing to remain childless. They suggest that 'childlessness in the West at least can be chosen as a lifestyle option and, for some, as a feminist statement...Thus when a western couple is without children, it is difficult for others to know whether this is voluntary or involuntary'.

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<sup>33</sup> These are of course only a select few terms in English used to discuss infertility. I have picked out these terms in part due to their use in modern scholarship on infertility in the ancient medical texts as will be explored in chapter 2. More colloquial or euphemistic terms for infertility include couples/individuals being described as 'having trouble conceiving', 'having fertility issues/problems', or being unable to conceive', to name just a few. As I shall show in the next chapter, such terms do have an ancient Greek equivalent which is often used in the ancient medical texts.

Inhorn & van Baden (2002, p. 11–12) further note that, particularly in north-western European countries, the terms ‘infertility’ and ‘involuntary childlessness’ are generally used interchangeably but with different connotations. They state that ‘whereas infertility may be defined as the process of not being able to have children, involuntary childlessness may be viewed as the final state or condition resulting from infertility’ and add that in western countries, whereas infertility is seen as a medical condition, involuntary childlessness is the social and psychological consequence of not having children.<sup>34</sup> It is also important to state that, according to Inhorn & van Baden (2002, p. 9), whilst voluntary childlessness is present in western societies, in non-western settings not having children is rarely viewed as a choice and children are often desired soon after a couple become sexually active. The failure to produce a child is quickly recognised by both the couple themselves and those around them as a major problem with numerous implications.

The term barren feels somewhat old-fashioned today and is not a word used in modern medicine, and is used only sparingly by the general population. Despite this, it is a term that is frequently used by modern scholars and particularly in translations of the ancient medical texts; for example a recent translation of the third book of the text *Diseases of Women* the title is translated as ‘Barrenness’.<sup>35</sup> The term ‘barren’ comes with both biblical and agricultural overtones. Jensen (2015, p. 28–29) suggests that these were not mutually exclusive connotations but that, especially in the largely agrarian societies of seventeenth and eighteenth centuries Europe and the American colonies, ‘metaphorical descriptions of childbearing women as rich soil, fostering sustained growth and prosperity...have corresponded with communities’ overarching interests and values. Likewise, descriptions of childless, married women as “barren,” unable to produce or nourish the next generation, would have played into widespread anxieties about communities’ longevity and survival’. The connection between the fertility of land and that of women did not begin with the

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<sup>34</sup> Inhorn & van Baden (2002, p. 12) state that whilst this seems like ‘semantic hair splitting’ it is in fact a political concern because whether not having a child is a medical problem or an ‘unfilled personal desire’ has implications for whether treatment will be provided by a national health care system. If it is classed as a medical problem, treatment will be given, whereas if infertility is classified as a social problem free treatment would be withheld.

<sup>35</sup> The continued use of the term barren in modern translations of the ancient texts and the benefits and pitfalls of updating such translations is analysed in chapter 2 of this thesis.

use of the word ‘barren’, and such connections can already be seen in the ancient texts. One of the most often quoted passages is from Meander’s comedy *Perikeiromene* (1013-1015) when the bride’s father offers his daughter to the groom with the words ταύτην γνησίων παίδων ἐπ’ ἀρότωι σοι δίδωμι which literally translate as ‘I give this girl to you for the ploughing of legitimate children’ (Robson, 2013b, p. 213). The connection is also made in the language surrounding reproduction; for example, the word σπέρμα was used for the seed of plants and the semen of humans.<sup>36</sup>

At the beginning of the nineteenth century there began to be a move away from the term ‘barren’ to that of ‘sterile’.<sup>37</sup> Today the term ‘sterile’ is generally defined as the ‘permanent state of infertility’ (*Black’s Medical Dictionary*, 2010b), unlike infertility which can be viewed as a temporary state which may respond to treatment or may even be spontaneously rectified. Sterility is a term generally reserved for people in whom conception is impossible, most often due to medical intervention such as sterilisation procedures, hysterectomy or ovarian removal or in men, vasectomy or castration. It is rare to find either a male or female who are sterile from birth, but there are cases of people being born with a genetic malformation or absence of part of the reproductive system which makes conception impossible, or indeed a male may be found to have a zero sperm count, either naturally or owing to a disease. However, this was not the case when the term came into regular usage during the nineteenth century when someone described as ‘sterile’ was still seen as being treatable and the term was used to describe a similar state as ‘infertile’ today. Jensen (2015, p. 35 n.2 ) argues that, when it was first used ‘sterile’, was little more than a synonym for ‘barren’; however, by the early nineteenth century the view of reproductive problems began to change as did the terminology. Duden (1991, p. 17) has suggested that in the nineteenth century birth was reduced to a bodily mechanism and viewed as a productive process. McGrath (2002, p. 31–32) states that by the end of the nineteenth century human

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<sup>36</sup> There are two words used for semen: τό σπέρμα and ἡ γονή. σπέρμα is most often translated as semen and is also used to refer to the seed of plants. γονή is usually translated as seed and is also used to refer to the offspring of an animal. Both words are translated as seed or semen by modern scholars and their use seems to be interchangeable.

<sup>37</sup> Jensen (2015, p. 35 n.2) notes that, unlike ‘barren’, the terms ‘sterile’ and ‘sterility’ were first employed primarily in the medical realm.

‘generation’ was eclipsed by ‘reproduction’ and that conception and birth had been framed as a manufacturing process.

This very brief analysis of the definitions of words associated with issues surrounding fertility problems shows that neither the terminology nor the concepts of ‘infertility’ are static. Both continue to develop depending on the medical understanding and social responses to infertility. Equally, the modern definitions need to be understood not only in a modern medical framework but also as part of a social and geographical one; for example, terms such as ‘involuntary childlessness’ have only developed alongside an increased acceptance of couples choosing not to have children.

#### Infertility and its occurrence and cause in modern medicine

The modern medical definition from WHO given at the beginning of the last section works well in a modern context, fitting into both the modern understanding of how conception occurs and the more general working of the body. However, when looking at infertility in the ancient world it is important to be aware that these definitions do not neatly fit with the ancient ideas of infertility.

Some of the issues involved are highlighted in the definition of infertility given by *Black’s Medical Dictionary* which states that infertility is:

...diagnosed when a couple has not achieved a pregnancy after one year of regular unprotected sexual intercourse. Around 15-20 per cent of couples has difficulties in conceiving; in half of these cases the male partner is infertile, while the woman is infertile also in half; but in one-third of infertile couples both partners are affected.<sup>38</sup> In about 10-15 per cent of women suffering from infertility, ovulation is disturbed. Mostly they will

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<sup>38</sup> In 2000 WHO estimated that the reproductive capacity of the male is diminished in not less than 50% of infertile couples (Rowe, et al., 2000, p. 1). In the UK the NICE estimates that infertility caused by male factors represents 30% of all causes with a further 25% of cases which cannot be attributed to either partner. In about 40% of cases problems can be identified in both the male and female partners (2013, p. 5). These statistics suggest that today male-factor infertility is either as prevalent as female-factor infertility or nearly so.

have either irregular periods or no periods at all. Ovulation itself is best assessed by ultrasound scan at mid cycle or by a blood hormone progesterone level in the second half of the cycle. In about 25 per cent of couples no obvious cause can be found for their infertility. Following investigations, between 30 and 40 per cent of infertile couples will achieve a pregnancy usually within two years.

(Extract from 'Infertility' entry in *Black's Medical Dictionary*, 2010a, 42<sup>nd</sup> Edition)

As in the WHO definition, the time after which infertility will be diagnosed is given as one year of regular unprotected intercourse. This is the first difference between the modern medical definition of infertility and that of the ancient medical writers. The length of time a couple may have been trying to conceive before they would be considered by the physician to have fertility issues is never mentioned in the ancient medical texts. In fact, no precise definition of infertility is ever given in the ancient medical texts nor do the writers express under what precise conditions a person would be considered infertile. In the modern definition it is stated that between 15-20% of couples struggle to conceive.<sup>39</sup> The prevalence of infertility in the ancient world is unknown and there is limited evidence to guide us. The author of book 3 of *Diseases of Women* (3.213 L.8.414) does state that due to the numerous causes of infertility one should not be surprised to find someone presenting with the condition.

The above definition also gives us an insight into the cause of infertility when it is noted that in some women, ovulation is disturbed and this can be assessed through an ultrasound or by testing the level of the hormone progesterone in the blood. This is only one of the numerous causes believed to have an effect on fertility: other causes include abdominal surgery, and conditions such as Polycystic Ovary Syndrome. Lifestyle factors such as obesity, malnutrition, cigarettes and alcohol are believed to affect the fertility of both sexes, as do medical treatments such as chemotherapy, sexually transmitted diseases - particularly chlamydia - and environmental pollutants and toxins. In men common reasons include low sperm count, diseases (such as

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<sup>39</sup> The estimate of infertile couples in modern society differs vastly from study to study depending on how the figures are calculated and infertility defined. The numbers given typically range from 9% to 25% (Balen, 2014, p. 1).

mumps), the effect of environmental oestrogenic pollutants, congenital anomalies such as hypospadias and cryptorchidism (undescended testes), and physical damage to the testes through injury (Balen, 2014, p. 13–23).

As I shall show in this thesis, some of the causes of infertility given in the ancient medical texts are similar to those found in modern medicine. The ancient authors saw menstrual disturbance as an indication of disrupted fertility, with obesity also often mentioned as a cause. Similarly, infertility as a state in which a person or couple are unable to conceive, even if not necessarily permanent, was also described by the ancient medical writers and, as in the definition from *Black's Medical Dictionary* couples diagnosed as infertile were thought capable of later going on to conceive. The ancient medical writers do talk about either one partner, whether the male or the female, or both partners potentially being affected by infertility (although, as I will discuss in later chapters, in the ancient medical texts the split between male and female infertility is not 50:50 as is thought to be the case in modern medicine).

However, it is important to recognise that the similarities between modern and ancient views on infertility are only superficial. There are many fundamental differences between the ancient and modern understanding of the physical structure of the human body and the elements and processes that need to occur to produce a child. To give some examples, ovaries, which are essential in modern theories to provide the ovum or 'egg' to be fertilised, were discovered in the third century BC by Herophilus of Alexandria, who considered them to be the equivalent of the male testis (Von Staden, 1989, p. 181). Their discovery meant that both Soranus and Galen were aware of their existence and indeed in the Galenic theory of conception there is some discussion of the female testes.<sup>40</sup> However, it was not until the seventeenth century that they were given their current name; the idea that the ovaries produced an egg began to be developed from this point, and their role in this process was still being debated well into the eighteenth century. The fallopian tubes, named after Fallopius, were first recognised as carrying the ovum to the uterus in the mid-

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<sup>40</sup> Galen considered the ovaries to be the equivalent of the male testes and named them as such. He envisages the female semen as travelling from the female testes through the spermatic ducts (what today we consider as the fallopian tubes) into the uterus where it was used for conception (Gal.*Sem.K.*4.536.5-8; cf.594.1-3).

sixteenth century (Hunter, 1988, p. 1–2).<sup>41</sup> It was only in the early nineteenth century that the idea of an ovum being fertilised by sperm in the uterus began to be developed, and hormones that control all of the processes involved in conception were not discovered until the early twentieth century (Oudshoorn, 1994, p.16-19). These examples demonstrate that when exploring ancient theories of conception we need to put aside any preconceptions we may have today about how conception occurs and accept that these play little part in any theory of ancient conception.

Although these differences between modern and ancient ideas of the definition of infertility may seem obvious, I think it is important to acknowledge them and to be very clear that a modern medical definition of infertility simply does not work in an ancient context. When discussing infertility in the context of ancient medicine it is not the modern medical definition of infertility being used but infertility in its most simple modern colloquial form, as the inability to produce children. In fact, as I shall show in the next section, the concept of infertility in the ancient medical texts often differs in its basic concepts from these modern definitions.

The differences between the modern and ancient understanding of infertility are vast and this gulf has arguably become larger with the introduction of *Assisted Reproductive Technologies* (ARTs). In an article exploring the term ‘infertility’, including its connotations and consequences, Sandelowski & De Lacy (2002, p. 35) suggest that infertility as a concept was ‘...arguably “invented” with the in vitro conception and birth of Louise Brown in 1978 – when in-fertility become possible’. They give the following reasoning for this statement:

Whereas barrenness used to connote a divine curse of biblical proportions<sup>42</sup> and sterility an absolute irreversible physical condition, infertility connotes a medically and socially liminal state in which affected persons hover between reproductive incapacity and capacity: that is, ‘not pregnant yet’ (Greil, 1991b) but ever hopeful of having a baby to

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<sup>41</sup> The fallopian tubes are described by Galen who refers to them as ‘spermatic ducts’ but they are not described in their modern form.

<sup>42</sup> Here I agree with Flemming (2013, p. 568) that in regard to ancient Greece ‘The notion of barrenness as divine punishment, as a “divine curse,” however, is found only in the realm of the imagination, though looser ideas of fate and fortune, which implicate the gods in human existence in more diffuse ways, were current, and could contribute to making sense of a couple’s childlessness’. In chapter 6 I explore the way in which religion did play a role in infertility in ancient Greece.



take home. The betwixt-and-between condition of infertility emerged when both infertile couples and their physicians began to expect that virtually any kind of biological or physical impediment to reproduction could be eventually bypassed, even if not removed or cured. (Sandelowski & De Lacy, 2002, p. 34–35)

Of course, Sandelowski & De Lacy are not arguing that prior to 1978 infertility as a condition did not exist but rather that the concept of a lack of fertility as being something that could be resolved did not exist. Whilst I agree that the introduction of ARTs has led to many more couples - and indeed the medical profession - believing that pregnancy is more likely to be achieved even when infertility has been diagnosed, there are two points to consider. First, even thirty years after their introduction ARTs, such as IVF still have a low success rate<sup>43</sup> and therefore the idea that any impediment to fertility has been removed is not the case.<sup>44</sup>

Secondly, as this thesis will demonstrate, the notion that infertility did not exist before 1978 as a concept completely separate from the ideas of barrenness and sterility is demonstrably not the case. Flemming (2013, p. 566) has argued that Sandelowski & De Lacy are wrong to state that ‘...procreative disruption was left entirely untreated by medicine up to that point, that doctors could not and did not offer assistance to those to those struggling to have children before 1978’; this model, she notes, is ‘of course, patently false’.

As Flemming further shows, infertility as a post-1978 concept has already been challenged by those working in the field of the history of medicine; for example in Naomi Pfeffer’s (1993) work on the development of British reproductive medicine through the twentieth century. Pfeffer has argued against the general view that, prior to the introduction of ARTs, the only options for

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<sup>43</sup> The success rate of IVF differs depending on numerous factors, especially the age of the couple, but the average success rate is between 25-45% (Fritz & Speroff, 2012, p. 1190).

<sup>44</sup> Although there is something to be said for the argument that the introduction of ARTs has given the impression that infertility can always be conquered, whilst this may have originally been the response to the introduction to ARTs it would seem that this view-point is changing. In an article for BBC News, Lisa Jardine, chair of the Human Fertilisation and Embryology Authority, stated that ‘The world of IVF is a market, a market in hope. Those who enter it deserve to be fully informed of its potential to deliver grief and a sense of failure, as well as success’ (Jardine, 2013). Indeed this hope may be often considered false hope; when in reaction to Jardine’s article responses from the public were sought, most of those responded described the pain associated with this hope, and one woman even stated that ‘I wish it [IVF] wasn’t available/invented’ (BBC News, 2013).

infertile couples were divine intervention or adoption. Flemming also notes the work of Margaret Marsh and Wanda Ronner (1996, p. 255) who argue that 'the medicalization of infertility began nearly two centuries ago'.

Jensen (2015, p. 27) argues that with the change in terminology in the nineteenth century from 'barren' to 'sterile' there was a change in understanding, stating that 'Sterile bodies could be fixed by medical intervention, but barren bodies were a sign of one's moral failings and required individual women to behave in prescribed ways and pray for God's blessings'. While there might be an argument for a change such as this occurring between the eighteenth and nineteenth centuries, it cannot be argued that this was the case throughout history. As Flemming (2013, p. 590) argues, for the story of infertility '...to be properly told, it must be recognized that infertility has a history that goes back thousands of years, a rich and varied history, but which always involved medical efforts among others, and never lacked confidence, a confidence that, itself, will have helped achieve positive results'.

Instead, in both modern medicine and in the ancient medical texts infertility is understood as being something which may or may not be overcome to enable a couple to achieve a successful pregnancy. As Flemming (2013, p. 568) has noted, 'the Hippocratic texts themselves operate with a notion that closely resembles Sandelowski and de Lacey's definition of "infertility"'. In fact, I would argue that the definition of infertility by Sandelowski & De Lacy as '...a medically and socially liminal state in which affected persons hover between reproductive incapacity and capacity' is, somewhat ironically, one of the best descriptions of the understanding of infertility in the ancient medical texts that I have found. Whilst the modern definitions of infertility are very much rooted in modern medicine, the understanding of infertility as a concept is by no means a modern invention but one that is found in the ancient medical texts.

### Theories of Conception

To understand what infertility may have meant to an ancient medical writer it is first important to understand what these authors thought it meant to be fertile. One of the best ways to do this is to examine the theories of conception put forward in the ancient world. Although conception is only

one part of the process needed to produce a full-grown living child the theories behind the act of conception allows us to understand what the Hippocratic authors believed the basis of fertility to be. In this section, I shall explore the theories of conception given in the Hippocratic Corpus and, as a comparison, those given by Aristotle.<sup>45</sup>

Blayney (1992, p. 230) identifies four aspects of conception which were discussed from the fifth century BC onwards. These are the nature of the male and the female contribution of the child, the nature and/or origin of semen, the determination of the sex of the child and the transmission of hereditary characteristics.<sup>46</sup> Here I only concern myself with the first two aspects; I shall discuss how the Hippocratic authors and Aristotle believed semen was produced and emitted, and what each partner was believed to provide towards conception and the process of conception itself, including a brief description of the development of the foetus.<sup>47</sup> As explored in the introduction to this thesis, the authors of the Hippocratic Corpus do not always agree, and in one such case their disagreement centres on the theory of how conception occurs. Although the most detailed theory comes from the twin texts, *On Generation* and *On the Nature of the Child* there are other theories given, particularly in the text *On Regimen*. However, as the theory given in *Regimen* concentrates on the process by which a male or female child is produced, I shall focus here on the explanation given in the two former texts and highlight the discrepancies when relevant.

#### Male and female contribution to conception and the production of semen

One of the key differences between the theories of conception in the ancient world was the nature of the contribution that the male and female partners provided towards conception.<sup>48</sup> The

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<sup>45</sup> There is limited evidence of the views of other medical authorities on conception; primarily these views come down to us in fragments. The views given in these fragments will be included where relevant.

<sup>46</sup> The scholarship exploring these four aspects of conception is vast and only small selections which have the most relevance to ancient views of infertility, will be discussed in any detail in this thesis. While I will mainly present scholarship from a biological and medical history standpoint these are by no means the only disciplines that have an interest in ancient theories of conception. There are many examples of theories of conception being used to explore ideas of teleological and mechanical explanations of Aristotle's work (e.g. Coles, 1995; Berryman, 2007) and the nature of the soul (e.g. Peck, 1953; Matthen, 1989; Bos, 2009).

<sup>47</sup> I shall discuss some of the aspects of the determination of the sex of the child and the theories of resemblance where they are relevant to infertility in later chapters of this thesis.

<sup>48</sup> It would seem that the debate as to whether women contributed seed towards conception existed from the fifth century BC, although most of the evidence for which authors subscribed to which view only

Hippocratic theory as given in *On Generation* includes four elements: the male semen, the female semen, breath (πνεῦμα) and menstrual blood. The author explains that ‘a man’s seed comes from all the moisture in his body’ (*Gen.*1.1-2 L.7.470.1-2; trans. Potter, 2012, p. 7).<sup>49</sup> In this theory the seed is drawn from the whole body and the author states that it comes from the ‘solid parts and the soft parts and from moisture’ in the body with the four types of moisture here being blood, bile, water and phlegm (*Gen.*3.1-5 L.7.474; trans. Potter, 2012, p. 11).<sup>50</sup>

The movement of the seed through the body was believed to occur during intercourse itself, as opposed to semen being stored in the testicles prior to intercourse. The Hippocratic author describes the movement of the semen through the body in the following way: as the penis is rubbed during intercourse and as the man moves, the vessels and cords throughout the body, all of which ultimately lead to the penis, are warmed and the moisture in the body is warmed. This turns the moisture into a liquid, which agitated by the movement, changes to foam. The most powerful and fattest part of this foam is secreted and goes into the spinal marrow, and from here, it passes to the kidneys and through the middle of the testicles to the penis, where it is ejected through a different tube from the urine, and moves into the uterus (*Gen.*1.1-26 L.470.1-21).

In the case of the female seed, the author states that the seed is drawn from the whole body, but does not describe its route through the body. However, the movement of the seed during intercourse was thought to be similar to that in the male; the author describes how when the vagina

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survives in secondary sources from later ancient authors. Many of the other Hippocratic authors appear to have concurred with the author of *Gen.* that the female provided something in addition to menstrual fluid to conception; this includes the authors of *Vict.*27 L.6.500.5 and *DW.*1.8 L.8.34.9-10; 1.24 L.8.62.20-21. Dean-Jones (1994b, p. 154) suggests that while there might be differences in some aspects of the theories of conception it would seem that the Hippocratic authors did concur on the female production of seed. Those who believed woman did contribute seed include Anaxagoras, Alcmaeon, Empedocles (according to Censorinus), Parmenides (according to Caelius Aurelianus) and Democritus (according to Aetius). Those who believed that women did not contribute seed include Diogenes and Hippon (according to Censorinus), Anaxagoras (according to Aristotle) and some Pythagoreans (according to Aetius) (Dean-Jones, 1994, p. 149; cf. Lloyd, 1983, p. 86–88). There is an important modern scholarly debate about the exact nature of the female contribution to conception, particularly in Aristotle’s theory, which revolves around whether Aristotle was attempting to diminish the female role in procreation. I discuss these debates in detail in chapter 5 where I explore the impact a theory of conception can have on ancient understanding of infertility. I intend this section to be a simple overview of theories given in order that the causes of infertility discussed in chapters 3 and 4 can be understood.

<sup>49</sup> ἡ δὲ γονὴ τοῦ ἀνδρὸς ἔρχεται ἀπὸ παντὸς τοῦ ὕγρου τοῦ ἐν τῷ σώματι ἐόντος.

<sup>50</sup> καὶ ἀπὸ τῶν στερεῶν καὶ ἀπὸ τῶν μαλθακῶν.

is rubbed and the uterus moves during intercourse it results in a tickling sensation which gives rise to pleasure and warmth in the rest of the body. The Hippocratic author states that women ejaculate from the body, sometimes into the uterus but sometimes externally if the mouth of the uterus gapes opens more than usual (*Gen.4.1-5* L.474.14-18). Therefore, in this Hippocratic theory the semen moves through the body and is ejaculated due to the combination of heat and movement during intercourse with both the male and female parent providing semen towards conception. The seed of the male and female were collected in the uterus where conception would take place.

Unlike in the theory given by the author of *On Generation*, Aristotle did not believe that the female partner provided any semen towards conception. Instead, there were two main elements involved in this theory, that of the male semen and the female menstrual blood. One of the reasons Aristotle gives for women not producing semen is the fact that they do produce menstrual blood. He states:

ἐπεὶ δὲ τοῦτ' ἔστιν ὃ γίγνεται τοῖς θήλεσιν ὡς ἡ γονὴ τοῖς ἄρρεσιν, δύο δ' οὐκ ἐνδέχεται σπερματικὰς ἅμα γίνεσθαι ἀποκρίσεις, φανερόν ὅτι τὸ θῆλυ οὐ συμβάλλεται σπέρμα εἰς τὴν γένεσιν. εἰ μὲν γὰρ σπέρμα ἦν τὰ καταμήνια οὐκ ἂν ἦν· νῦν δὲ διὰ τὰ ταῦτα γίνεσθαι ἐκεῖνο οὐκ ἔστιν.

Now it is impossible that any creature should produce two seminal secretions at once, and as the secretion in females which answers to semen in males is the menstrual fluid, it obviously follows that the female does not contribute any semen to generation; for if there were semen, there would be no menstrual fluid; but as menstrual fluid is in fact formed, therefore there is no semen.

(*GA.727a26-30*; trans.Peck, 1942, p. 97)

The reason that Aristotle believed that women could not produce semen was intrinsically linked to how he believed semen was created; in fact, he believed both semen and menstrual fluid ultimately came from the same process and that they were both residues from nourishment (*GA.727a31-32*).

To explain this process from the beginning, Aristotle's theory suggests that, when nourishment, essentially in the form of food, enters the body it undergoes several processes of concoction; in essence, the concoction changes the nature of the food by a process which can be likened to the ripening of food or to baking, processes completed by heat (*PA.650a3-8*). Having entered the body, the food travels to the stomach where it undergoes the first stage of concoction. The nourishment then passes to the heart, where it is concocted again into blood, which then provides nourishment to the rest of the body; this nourishment is used for growth and maintenance of the body (*PA.647b5*; cf. *666a8*). The leftover nourishment can undergo further concoction and produce a variety of parts such as marrow (*PA.652a5*), fat (if there is a substantial amount left over) or nails and hair (*PA.651.20-25*). Some of the leftover nutriment is further concocted into semen, milk and menstrual fluid (*GA.726a26*; *728a36*).

Semen is described by Aristotle as having undergone the ultimate concoction, that is to say it is produced at the last stage of concoction, and this according to Aristotle makes it the most potent residue whereas menstrual fluid is described as un-concocted semen. Therefore, both menstrual fluid and semen are residues and are concocted nourishment but women are unable to make the final concoction into semen (*GA.728a18-21*). The reason Aristotle gives for this is that he believed women were colder than men, and, as concoction needs heat to happen, women are unable to provide the internal heat needed for the final stage of concoction, and they are therefore unable to produce concocted semen.<sup>51</sup>

In Aristotle's theory of conception, the male partner provides semen and the female the menstrual fluid. However, whereas in the Hippocratic theory the menstrual blood simply provides nourishment after conception has taken place, for Aristotle, menstrual blood has a dual purpose; it acts not only as nourishment but as a provider of the mother's characteristics which may be

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<sup>51</sup> Galen, like Aristotle, believed that the semen was produced from blood. However, unlike Aristotle who believed the testes were merely weights, Galen believed that the testes transformed the blood into semen through the numerous windings of vessels that led to both the male and female testes (*Gal.Sem.K.582.1-584.2*). Whereas Aristotle believed that the coldness of the female prevented her from producing semen at all, Galen believed that women could produce semen but that their lack of heat meant that the semen they produced was of a lower quality and was less substantial, colder, thinner and weaker than the semen of the male.

found in the child. Menstrual blood is essentially made up of the same constituent elements as semen but has not been fully concocted and therefore, unlike in the Hippocratic theory, Aristotle does not need to include a separate female seed in his theory.

Aristotle, like the Hippocratics, believed that the semen moved through the body during intercourse. He believed that as the penis was moved during intercourse the semen collected and then moved forward (*GA.717b23-26*) and that to emit the semen the man needed to hold his breath (*GA.718a2-4*). In the case of the female, the menstrual fluid is already in the uterus awaiting the arrival of the semen. Aristotle notes that the male semen is not emitted directly into the uterus, due to the narrowness of the mouth of the uterus, but just before the mouth, where it is then 'drawn in' (εἴσω παῖ) by the heat of the uterus (*GA.739b3-5*).<sup>52</sup>

#### Process of conception and development of the foetus

Both Aristotle and the Hippocratic authors believed that the contributions from the male and female partners were collected in the uterus where conception took place.<sup>53</sup> The first step towards conception was believed to occur with the retention of the semen; if this did not occur and the seed was expelled by the uterus then the woman would not conceive. The Hippocratic authors believed that a woman could potentially know the exact date of conception by recognising she had retained the seed (*Gen.5.7-9 L.7.476.23-25*). The Hippocratic author describes the retention of the seed in the following way:

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<sup>52</sup> The exact nature of the differences between where Aristotle believes semen is drawn from in the body compared to the Hippocratic view has been debated in modern scholarship. Many of the debates have surrounded the ideas of pangenesis. This term was introduced by Darwin in the nineteenth century but, while the term is used for the theory given in the ancient texts because of their similarities, they are not in fact the same theory. In pangenesis, the seed is drawn from individual areas of the body, contrasting with the view that it is drawn from the body as a whole. Generally, it is accepted that the Hippocratic theory is based around the idea of pangenesis whereas Aristotle subscribed to the alternative school of thought. This has been challenged by Coles (1995) who argues that the two theories are closely related and that Aristotle can be read as subscribing to a similar view as the Hippocratic Corpus on this point. This in turn has been disputed by McGowen Tress (1999) who argues that Coles comes to this conclusion because he is approaching the two authors as both being physicians as opposed to a physician and a philosopher.

<sup>53</sup> In modern science it has now been observed that the process of conception and the meeting of the male and female contribution to reproduction takes place in the fallopian tubes (Pepperell, 2013, p. 19–20).

αἱ γὰρ μήτραι δεξάμεναι καὶ μύσασαι ἔχουσιν ἐν ἐωυτῇσιν, ἅτε εἰλυσπασθέντος τοῦ στόματος ὑπὸ τῆς ἱκμάδος, καὶ μίσγεται ὁμοῦ τό τε ἀπὸ τοῦ ἀνδρὸς ἐλθὼν καὶ τὸ ἀπὸ τῆς γυναικός.

For the uterus, on receiving the seed and closing, holds it inside itself, inasmuch as its mouth contracts in response to the moisture, and then what came from the man and what came from the woman are mixed together.

(*Gen.5.4-7 L.7.476.20-23*; trans.Potter, 2012, p.15)

The mouth of the uterus therefore has an automatic response to the moisture of the semen and contracts to hold the semen inside, and the seed from both partners is described as being ‘mixed together’ (μίσγεται ὁμοῦ). This mixing of the seeds in the uterus happens in part by the continued movement of the woman after intercourse but also due to the warmth of the uterus, and this warmth also makes the mixture become thicker (*Nat.Puer.12.1-3 L.7.486.1-3*).

Once the seed mixture has been established, a new element is added: the breath (πνεῦμα). As the woman breathes, the uterus, being a warm place, draws in some of the breath that goes into the seed mixture. A passageway is formed through the mixture by the breath which passes out through the middle of the seed; in turn fresh breath is drawn in and the process is repeated (*Nat.Puer.12.3-13 L.7.486.3-13*). The Hippocratic author uses the analogy of burning wood to describe this process. He explains that when wood is burnt it expels air from where it was cut; the air comes out of the wood and eddies around the cut, and as the air in the wood is hot it draws in cold air to feed itself at the same time as it expels the air from inside (*Nat.Puer.12.13-31 L.7.486.13-488.8*). The seed mixture, being hot, draws in and releases air in the same manner.

This process of the seed mixture taking in and releasing breath causes the mixture to ‘inflate’ so that the seed develops a membrane. This process is compared by the Hippocratic author to the process of bread-making. When bread is being baked it grows warm and inflates and, as it is being inflated a membrane grows on the surface. The membrane surrounds the seed mixture completely, except for a small perforation in the middle which allows the air to enter and to be released. This



perforation develops a small projection that will become the umbilicus (*Nat.Puer.*12.37-45 L.7.488.13-21).

The Hippocratic author does not state how long he believes it will take for the membrane around the seed to form. However, he does describe how he was summoned to a singing-girl who had informed her mistress she had felt herself retain the seed. The Hippocratic author describes how he instructed her to jump up and down whilst kicking her heels against her buttocks and on the seventh jump the seed fell out (*Nat.Puer.*13.1-26 L.7.488.22-492.6). He describes the result as looking ‘...as if someone had remove[d] the external shell of a raw egg, and the fluid part inside was visible through the internal membrane’ (*Nat.Puer.*13.14-15 L.7.490.13-14; trans. Potter, 2012, p.37).<sup>54</sup> The author states that the umbilicus could be seen and that the membrane entirely surrounded the seed, and this was six days after intercourse. The process therefore was believed to take under six days but does not seem to be thought of as happening immediately after conception.

In the Hippocratic theory outlined, once the semen has entered the uterus it does not mix with the menstrual fluid, but in the Aristotelian theory of conception the sperm ‘moulds’ the menstrual fluid into a living thing (*GA.*738.23-25). As part of this ‘moulding’ the male sperm provides one other important aspect, the soul (ψυχή).<sup>55</sup> Aristotle believed that the male semen provided the sentient soul which in essence gave life to an animal; without the sentient soul the animal would be on par with ‘a dead body or a dead limb’ and it was the inability of the female to provide this aspect that meant she could not generate alone (*GA.*741a10-16; cf. 741b7-10).

Like the author of the Hippocratic text *On Generation* Aristotle uses a food analogy to describe the process of conception, in this case rennet acting on milk, and where the male semen ‘sets’ (συνίστημι) the menstrual blood. The rennet, having the vital heat, is like semen and the menstrual

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<sup>54</sup> οἷον εἴ τις ὡοῦ ὥμοῦ τὸ ἐξω λεπύριον περιέλοι, ἐν δὲ τῷ ἔνδον ὑμένι τὸ ἔνδον ὑγρὸν διαφαίνοιτο.

<sup>55</sup> Peck’s (1942, p. lix) translation of *GA* notes translating ψυχή as ‘soul’ is not entirely satisfactory but that it is the most convenient as Aristotle uses other terms for ‘life’ and ‘vital principle’. Aristotle’s ideas surrounding the soul are hugely complex and for the purposes of explaining his theory of conception I feel soul is the appropriate translation.

blood is akin to the milk; as the milk (or menstrual blood) sets, the fluid portion comes off and a membrane is formed on all its outer surfaces (*GA.739b21-30*).

### Development of the foetus

For conception to continue past the point of a membrane being formed the Hippocratics believed that menstrual blood was needed. The author of *On Nature of the Child* describes how blood is drawn from the woman's uterus along with the breath through the membrane at first and then later by the umbilicus (*Nat.Puer.14.2-12 L.7.492.7-18*). The use of the blood in the development of the foetus explains why the woman does not menstruate during pregnancy if she is going to have a healthy child, although the author does note that a small amount of blood may be passed in the first month (*Nat.Puer.15.3-13 L.7.492.21-494.8*).

As more blood and breath is drawn into the uterus more membranes are formed; these membranes all have connections to both the umbilicus and the original membrane (*Nat.Puer.14.9-12 L.7.492.15-18*). The process of the coagulation of the blood along with the breath begins to form the basis for the body of the foetus (*Nat.Puer.15.1-3 L.7.492.19-20*). The flesh around the umbilicus is the first to form, followed by more flesh, then bones develop which become harder due to the heat, a head is formed out of the shoulders, then arms and legs. These are followed by a mouth, nose, ears and eyes, the genitals and the viscera and finally the intestines and the bladder (*Nat.Puer.17.1-19 L.7.496.17-498.15*). The Hippocratic author states that this process will happen over 30 days for male foetuses and 42 days for females (*Nat.Puer.18.1-3 L.7.498.27-500.2*). After this the foetus will be fully formed but will continue to take in breath and blood from the mother in order to grow larger and be ready for parturition.

Aristotle believed that the parts of the foetus developed in a different order. Once the menstrual blood has been 'set', Aristotle describes the formation of the embryo as being like seeds grown in the ground, which begin with a shoot and a root, with the root being the channel through which the plant gets the nutriment for growth (*GA.739b34-740a3*; cf. *740b9-14*). The first part of the embryo to develop is the heart; this is because Aristotle believes that the blood is the ultimate form of nourishment for the body and, as the blood vessels carry the blood, the heart is needed

first (*GA*.740a20-24; cf. 741b18-19). Some of the first blood vessels to be formed are attached to the uterus and form the umbilicus, through which nutriment can be taken from the mother until birth (*GA*.740a24-36; cf. 745b24-26).

After the heart and the umbilicus, the internal organs are developed before the external, with those above the diaphragm developing before those below (*GA*.741b25-30). The brain, head and the eyes develop first (*GA*.743b30-35) with things below the umbilicus, such as the legs, developing later (*GA*.742b10-17). The flesh is formed as nourishment from the blood vessels oozes out and as it cools, it sets into flesh, with a similar process happening to create nails (*GA*.743a12-17). The skin is developed as the flesh solidifies like scum on boiled liquids (*GA*.743b9-10). Bones and sinews are created through heat; Aristotle describes them 'being baked as it were in an oven by the heat present at their formation' (*GA*.743a18-20). Aristotle describes how some parts of the body, such as the heart, brain and bones are created out of the seminal residue provided by the male whereas other parts such as the nails and hair are produced from additional nourishment provided by the mother through the umbilicus (*GA*.744b28-29; 745a1-4).

The theories of conception given by the Hippocratic writers and Aristotle give us an insight into what the ancient medical authorities believed needed to occur for the production of a living child. There are many similarities between the theories, for example the need for male semen, although its production and role differ somewhat. In each theory, the menstrual fluid has the role of providing nourishment to the foetus. Similarly, each writer also stresses the importance of the male seed being retained by the uterus and this marks the beginning of conception in both cases. The next stage of conception in all the theories is the development of a membrane around the seed mixture. The main difference in the theories is whether the material the woman initially provides towards conception is menstrual blood or female semen but whichever it is the authors agree that a female substance and the male semen come together in the uterus where conception occurs.

If any part of the process of conception could not be completed then either conception would fail to occur or a pregnancy would result in miscarriage. Ultimately, as I shall show in chapters 3 and 4, the reasons given by the ancient medical writers for infertility relate to at least one of the stages

of conception not being completed and therefore these theories of conception form a basis for our understanding of why the ancient medical writers thought infertility occurred.

### Boundaries of fertility

In the final section of this chapter, I turn my attention to those people who were not expected to conceive children. Essentially, there was a boundary around the time in a person's life, in which they were considered fertile, signified by puberty at the beginning and, in the case of women, menopause at the end. Men too were thought to reach an age by which they were unlikely to be fertile.

The Hippocratic authors do not give exact ages for when they believed puberty would occur.<sup>56</sup> However, the author of *On Generation* (2 L.7.472-474) suggests that the reason that children do not emit semen in the case of boys or menstruate in the case of girls is because the passages through which these fluids will flow are too narrow and solid. However, as the child grows the passages widen and therefore semen and menstrual blood can be emitted.<sup>57</sup> In the case of boys the production of semen shows they have matured; however, in the female body the process is more gradual with menarche, defloration and childbirth all widening these internal passages and loosening the woman's flesh (King, 1998, p. 72).

The age when fertility begins, in both the male and female, is given as 14 years of age by Aristotle (*HA*.581a13).<sup>58</sup> Aristotle saw the production of semen in males and menarche in females as the sign that their bodies were becoming fertile stating that 'The beginning of childbearing in the women and of procreation in the males, and their cessation in each is determined by the emission

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<sup>56</sup> Amundsen & Diers (1969, p. 125–126) suggest that in *Coac*.502 (L.5.700) the statement that some diseases do not appear before puberty but do from the ages between 14 and 42 is an indirect statement that puberty was believed to occur at 14.

<sup>57</sup> Although here the author does not describe female seed being able to move through the body, later in the text he acknowledges that the passage for both semen and menses are opened and that the woman has two secretions not one like the male (*Nat.Puer*.20 L.7.508).

<sup>58</sup> At around the age of 14 males and females are observed to change; in modern terminology, this would be classed as puberty. The typical signs are outlined as semen being produced in boys and menstruation in girls, growth of pubic hair, change in voice in both sexes, the growth of breasts in girls and beards in boys and a change in the physical structure of the body including weight (*GA*.581a9-582a16).

of seed in the latter and of menses in the former, except that they are not fertile immediately when the emissions begin, nor any longer when they become few and weak' (*HA.585a35-585b5*; trans.Balme 1991, p. 451). Although menstruation and emission of seed were signs of impending fertility a person was not considered fully fertile by Aristotle until they reached the age of 21. Aristotle (*HA.582a17-29*) says that although males begin to produce semen at 14 it is largely infertile until the age of 21 and if a child is conceived with either parent being under 21 the child will be small and imperfect, with the woman struggling in childbirth. Aristotle describes women as reaching their peak at 21 whereas men continue to improve.

The Hippocratic authors do not give limits for the upper age of a person's reproductive life.<sup>59</sup> Aristotle does suggest an age range for women when he notes that 'The menses cease in most women at about forty years, but wherever they exceed this time they continue up to fifty years, and there have been some who gave birth; but none has continued longer' (*HA.585b2-5*; trans. Balme, 1991, p. 451).<sup>60</sup>

The reason that Aristotle gave for fertility declining with age was based on his belief that people were born with a certain amount of internal heat, left over from conception, and this heat constantly diminished throughout a person's life so that by the time they reached old age it had almost been extinguished (*GA.748a33-35, 766b30-32; Long.466a17-21, 466b9-10*). Aristotle uses this information to explain why reproductive abilities in the female decline more quickly than in the male; he informs us that men are generally able to procreate up to sixty and that some have procreated well into their seventies (*HA.585b6-8; cf.545b27-31*). Aristotle is clear in his assertion

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<sup>59</sup> In their article documenting the ages of menopause given by authors across antiquity Amundsen & Diers (1970, p. 84) give the average age of menopause in the Hippocratic texts as 42; however, this is misleading. The source they cite is *Coac.502 L.5.700* and simply says that certain diseases are more likely to occur between the ages of 14 and 42; these have been interpreted by Amundsen & Diers as diseases more likely to occur in menstruating women.

<sup>60</sup> cf. *Pol.1335a14-15*; In *HA.545b27-31* Aristotle states that a woman can reproduce up until 50 but describes this as unusual and gives 45 as the general limit. Today the median age for the menopause in European women is between 50.1 and 52.8 years. However, this depends on geographical location. For North America the figure is 50.5-51.4, for Latin America 43.8-53 years and Asia 42.1 to 49.5 (Palacios et al., 2010).

that not only is menstruation needed to reproduce successfully but also that fertility declines as the frequency and amount of fluid lost in menstruation declines.

In the Hippocratic texts, there is acknowledgement that fertility declines with age. The Hippocratic text *Epidemics* 2.2.17 (L.5.90), describes the case of a wife of a leatherworker developing strangury after conceiving, which was only relieved when she gave birth. Here, it is observed that 'she was of a rather advanced age; she had not even menstruated in the most recent period' (trans.Smith, 1994, p. 35). The physician describing the case does not seem to mention this because it affected the diagnosis, but purely because it was unusual for a woman of this age to conceive. What it also suggests is that it was possible for an older woman who was presumably approaching the menopause, suggested by the fact she had not recently menstruated, to bear a child. An explanation for this is offered by Aristotle who gives the complete absence of menstrual blood as one of the reasons a woman may not conceive. He also describes how a woman may conceive without an external appearance of menstrual blood, stating they 'produce only just so much liquid as remains in fertile individuals after the evacuation is over, and there is no surplus residue to be discharged externally' (*GA*.727b10-25; trans.Peck, 1942, p.99).

Age cannot be considered a cause of infertility, because a person would not be expected to be fertile outside a particular age range. However, age is a factor in deciding whether someone would have been considered fertile. An ancient physician would not have expected a child to be capable of conception until they had gone through puberty and even then, they may not have expected the person to be immediately fertile. Similarly if a woman stopped menstruating without ill effect and was over the age of 40 a doctor may consider the woman to have reached the end of her reproductive life. However, this was not clear-cut as the case of the leather-worker's wife shows and for a man there was no indication he had reached a point in life where procreation was not possible except that he was not producing children with his wife.

## Conclusion

The theories of conception from the ancient medical writers described in this chapter show what both the Hippocratic writers believed needed to happen for a child to be conceived. The differences between Aristotle's theory of conception and that given in the Hippocratic text *On Generation* show that in antiquity, there was not a unanimous theory of conception. The effect that different theories of conception had on how infertility was viewed by the different authors will be discussed in chapter 5. Despite the differences in the theories, the basic premise that a couple needed to provide the correct materials towards conception, and the woman needed to retain these in order for conception to occur, remain the same. As the subsequent chapters of this thesis will show, any interruption of this process could lead to a couple not producing children and being considered as infertile. However, it is important to recognise that the period in a person's life in which they were expected to be fertile was understood by the ancient medical writers to be bookended by puberty and by a gradual reducing of fertility as the person increased in age, signified in the case of women by menopause. Therefore, although people outside this fertile period in life could be considered biologically infertile as they were not expected to reproduce they will be excluded from further discussions on the causes of infertility found in the ancient medical in this thesis.

This chapter has shown that defining infertility is not a straightforward task. The modern definitions of infertility are based on a modern understanding of the body and the language surrounding reproductive problems at any given point is determined not only by changes in medicine but also social reactions to infertility. To discuss infertility in the ancient medical texts it is important to be clear about not only the meanings of the terms we are using but also how we are using them in relation to the ancient medical texts. The importance of these definitions will become even clearer when I turn my attention to the way in which scholars approach translations of ancient medical texts in the next chapter.

## Chapter 2.

### Language of infertility

Ion: οὐδ' ἔτεκες οὐδὲν πόποι· ἄλλ' ἄτεκνος εἶ;

You have never borne a child but you are childless?

Creusa: ὁ Φοῖβος οἶδε τὴν ἐμὴν ἀπαιδίαν.

Phoebus knows the nature of my childlessness.

(Eur.*Ion*.305-306; own translation)

In this chapter, I explore both the language of infertility in ancient Greek literature and the effect modern translations of these texts can have on our understanding of infertility as perceived by the ancient medical writers. The quotation from Euripides' *Ion* above highlights some of the reasons why a close analysis of the different words used to express reproductive failure in ancient Greek is needed. In these two lines of text there are three ways of conveying Creusa's parental status: οὐδ' ἔτεκες, ἄτεκνος and ἀπαιδίαν. There is ambiguity in both Ion's question and Creusa's answer about her status, and for Euripides this is an important plot point as it is revealed later that Ion is Creusa's illegitimate son resulting from her rape by Apollo.<sup>61</sup> However, as this chapter shall show, the ambiguity in the way in which different ancient Greek words can be used to express a person's fertility status is also found across the ancient medical texts. There are many words and expressions that were utilised by the ancient writers to express infertility and childlessness.

In the first section of this chapter, I explore some of the difficulties involved in translating ancient Greek medical texts. Then, building on the definitions of key words associated with reproductive failure given in the last chapter, I discuss how 'infertile', 'sterile' and 'barren' are used by scholars in modern translations of the ancient texts and how these can affect our understanding of this material. In the second half of the chapter I shall analyse the most frequently used terms in ancient Greek to express reproductive failure and the different ways in which these words are used in different situations by different authors.

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<sup>61</sup> See chapter 6 for further discussion of the role of infertility in this play.



### Problems associated with the translation of ancient medical texts

The issues surrounding translation of texts are, of course, not limited either to the ancient medical texts or indeed to translations from ancient languages to modern. While translation more widely has been a process closely studied by those working on ancient Greek literature, the specific problem of translating ancient medical texts into modern languages is a subject that has been little discussed in modern scholarship. Helen King (1997, p. 263) has raised a vitally important point concerning the use of modern medical terminology when translating ancient medical texts, stating:

Any translation is also an interpretation, and a problem facing the translator of ancient medical texts is the degree to which modern medical terminology should be used; this involves a range of issues such as the need to achieve a balance between reproducing the style of the originals and making them comprehensible, the translation of plant names, 'identification' of diseases by retrospective diagnosis and attempts to map Hippocratic anatomy and physiology on to our contemporary models of the body.

King further notes that the choice of whether to use medical terminology or language that is more colloquial can change a translation somewhat. She gives as an example from Paul Potter's translation of the Hippocratic text *Places in Man* (47 L.6.344; Potter, 1995, p. 95) where he translates 'When the uterus does not drop its os.'<sup>62</sup> She suggests that translating τὸ στόμα as 'os' rather than the less 'scientific' term 'mouth' gives a different feel to the passage. In terms of 'infertility' the choice of medical and non-medical language in translation, as will be discussed later in the chapter, is an important consideration when choosing the word 'barren' over 'infertile' in translations.

That is not to say that the choice of using medical and non-medical language is only limited to modern language, as Dimitrios Lipourlis (2007, p. 1104) states:

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<sup>62</sup> In her translation of this text Craik (1998, p. 87) makes her translation of τὸ στόμα even more general by translating it simply as an 'opening'.

Any student of the ancient Greek medical vocabulary must make one fundamental distinction from the start, between, on the one hand, the vocabulary which ancient Greek (like every other language) employed in order to express itself with regard to the ‘concepts’ of “health”, “disease” and “healing” and on the other, the vocabulary created by those involved in the art (τέχνη) of medicine.

The point made by Lipourlis that a distinction between medical and non-medical language is not the preserve of modern languages but that this needs to be taken into consideration when looking at ancient languages as well is an important one. However, the development of a standard medical language is not straightforward and as Lloyd (1983, p. 166) suggests this would need some degree of consensus between medical practitioners which was not present in the ‘highly individualistic and competitive’ medicine of the fifth and fourth centuries. Instead, there was no external pressure to develop a uniform medical vocabulary and some incentive for writers to claim to be original.

Nor are the problems of the translation of medical texts limited to the translation of ancient texts as translating medical texts between modern languages also raises relevant issues.<sup>63</sup> In a study of English translations of 292 Spanish titles of medical articles published in *Medicina Clinica*, Fernando Navarro and Jeffrey Barnes (cited in Reeves-Ellington, 1996; cf. 1998) found 458 errors in 77% of the titles and a complete difference in meaning between the original Spanish and the English translations in 34% of the titles. Barbara Reeves-Ellington (1998, p. 106) has stated, in response to this study, that while the consequences of such discrepancies in translations cannot always be seen, ‘...it should be obvious that unexplained omissions may cause considerable damage to a physician’s reputation, not to mention a patient’s health’. A mistranslation of an ancient medical text today will, of course, not be detrimental to anybody’s health, and is unlikely to damage the reputation of an ancient author; nevertheless, a mistranslation of the ancient Greek could influence our understanding of the position of the ancient medical writer on the topic being discussed.

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<sup>63</sup> The most in-depth discussion of the various problems involved in translating medical texts into modern foreign languages can be found in the collected essays in *Translation and medicine* (Fischbach (ed.) 1998, cf. Fischbach, 1962).

One of the main problems of translating modern medical texts into foreign languages is the constant addition of new terminology into a language. Jack Segura (1998) has discussed the difficulties of translating medical texts from English into Spanish and highlights the problem that many English words are coined without a Spanish parallel. His conclusion is that the best practice when you have a new term in English is to use an approximate Spanish equivalent and follow this with the English term in parenthesis. He also notes that it is not enough to learn what a particular part of the body is called in each language, but that it is also necessary to know the structure of the body and its various functions. This too is the case when translating the ancient medical texts; it is important to have an understanding of the ancient theories of how the body works, not just the words being used for individual parts.

In a sense, one of the problems of translating the ancient medical texts is an inversion of that put forward by Segura with regard to the problem of modern medical translations. In the case of the translation of English into Spanish the problem highlighted by Segura is that of the original language, English, coining new words, which are not present in the target language, Spanish, whereas in respect of the translation of ancient Greek texts into modern language the problem is reversed.<sup>64</sup> The original language in this case does not offer us new words but the target language does. The words surrounding the descriptions of infertility in English have changed over time, and will continue to do so; for example whereas 'barren' or 'sterile' were once in regular usage in English to denote the inability to have a child, now the word 'infertile' is the main word used, both in the medical profession and the non-medical community.

Although, in general and medical usage, there has been a move towards using the term 'infertile', when we turn to translations of the ancient medical texts, it appears that something slightly different has occurred here, with 'barren' and 'sterile' still being regularly used in modern translations of these texts.<sup>65</sup> In the second half of this chapter I will examine in greater detail the

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<sup>64</sup> This is the case in general although as I shall show later in the chapter there is some change in the ancient Greek words themselves within antiquity.

<sup>65</sup> Scholars studying infertility in other historical periods, particularly the Early Modern period, do use the term 'barren' with some frequency. However, in these cases 'barren' is often the word used in their source material and therefore it makes sense for them to use the same terminology.

use of these different words in translation and some of the issues with these words, but I do wish to show here an example of this lack of change in translation compared to the wider change in language from ‘barren’ to ‘infertile’. The title of the third book of *Diseases of Women*, provides a good example of this. The way in which the title of this book has been rendered has changed slightly over time and gives us a snapshot of the way in which changes in terminology surrounding infertility have influenced the way in which the ancient Greek words have been translated.

<u>Translation</u>	<u>Author &amp; Date</u>
περὶ ἀφόρων	Greek title
De sterilibus	Latin title
Des femmes stériles, ou livre troisième (On Sterile Women or Book Three)	Littré (1853, p. 408)
Barren Women	Hanson (1975, p. 568)
On Sterile Women	King (1998, p. 31, cf. 2013, p. 52)
Barren Women	Totelin (2009, p. 274)
Barrenness	Potter (2012, p. 331) <sup>66</sup>
On Infertile Women	Flemming (2013) <sup>67</sup>
On Barren Women	King (2013, p. 66)
On Infertile Women	Craik (2015, p. 204)

The table above shows several translations of the title περὶ ἀφόρων,<sup>68</sup> with by far the most common translation of this title being *Barren Women/Barrenness*. The ancient Greek title of this

<sup>66</sup> Immediately after the title Potter inserts a footnote stating that the title is literally: ‘on those who do not bear’.

<sup>67</sup> Fleming does not offer an explanation as to why she has chosen to translate the title this way.

<sup>68</sup> These are only a few examples but show the various ways in which the title has been translated.

text is *περὶ ἀφόρων*, with the possible translations of the word ἀφόρος, being ‘barren’, ‘sterile’ or ‘infertile’, as demonstrated by the various translations of the title. As the title was probably added to the treatise at a later (and unknown) date my interest is more from a translation point of view than the use of it in the title itself.<sup>69</sup>

This use of the word ‘barren’ follows the LSJ’s definition of the word, which is given as ‘not bearing’ or ‘barren’. However, the word barren does not truly represent either the word ἀφορος or indeed the contents of this treatise. The word ‘barren’, as I have previously discussed, has connotations of a permanent state, and so it is a word closer to meaning ‘sterile’ than ‘infertile’. In *περὶ ἀφόρων* while there are some cases described where the women’s fertility cannot be restored the focus is in fact on describing reasons why women struggle to conceive and on offering treatments to restore fertility; so the term ‘barren’ does not really fit with the contents of the text. The term ‘infertile’ may be a better fit, which may be why in a recent article Rebecca Flemming translated the title as *On Infertile Women*. Elizabeth Craik (2015, p.204) is the only other example I have found calling this book *Infertile Women*. Unlike Flemming she alludes to the reason, for this stating ‘that is, ‘barren’ or ‘sterile’ women, to cite the common if somewhat quaint and archaic translation of the adjective’.<sup>70</sup> The translation of this text as *On Infertile Women* also reflects the general trend in modern English away from the term ‘barrenness’.

However, only a year before Flemming’s article, Paul Potter (2012, p. 331) chose to translate the title as *Barrenness*, and there is a definite preference for translating ἀφόρος as ‘barren’ rather than ‘infertile’ not only in the translations of this title but more widely in translations of the ancient medical texts. For example, although Flemming translates ἀφόρος in the title as ‘infertile’, when she provides a translation of a passage from the same treatise, she translates exactly the same word as ‘barren’ (Flemming, 2013, p. 573).<sup>71</sup> The use of the word ‘barren’ in modern translations

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<sup>69</sup> There is a full discussion on the word ἀφόρος and its meanings later in the chapter.

<sup>70</sup> Craik (2015, p. 114) also states that she finds the titles *On Generation* and *On the Nature of the Child* ‘stilted and archaic’ and suggests that these works should perhaps be called ‘On Conception’ and ‘On Embryology’ or alternatively ‘On Intercourse and Pregnancy’ or simply ‘On Reproduction’. She does not appear to consider why the titles of the books have continued to be translated as they are or any possible implications of updating these titles.

<sup>71</sup> The passage in question is *DW*.3.213.79-84 *L*.8.414.13-16 see p.58 for full quote.

seems somewhat old-fashioned compared to current terminology, so why might modern translators be choosing to use 'barren' rather than 'infertile'?

The reasons for this choice are difficult to determine, but there seems to be two possibilities. Firstly, that those translating these texts, particularly in the case of the title of *περὶ ἀφόρων*, are following tradition. The translation most commonly used for *περὶ ἀφόρων* is *On Barren Women/Barrenness* and as such translators continue with this tradition. Similarly, as the LSJ offers the definition as 'barren', it may be the case that more modern translators are simply using the definition as given in the dictionary. Of course, as the LSJ was written in the nineteenth century, the definitions given naturally sometimes appear at the very least old-fashioned if not out-dated. The use of 'barren' may now also suggest that translators are not considering any possible different connotations between the words 'barren' and 'infertile', although the fact that Flemming decided to change the title to *On Infertile Women* does suggest otherwise.

The second possibility is that the translators deliberately prefer the term 'barren' over the more modern and more medical term of 'infertile'. The decision of whether to use medical or non-medical language and the effect this can have, as discussed by Helen King (1997, p. 263), may be a factor here. 'Barren', as Craik has highlighted, may seem old-fashioned; however, it does not bring with it the modern medical connotations regarding infertility itself, nor does it bring in the modern understanding of the body that the term 'infertile' implies. For the reasons I have given, *On Infertile Women* is my preferred way to translate the title of *περὶ ἀφόρων*. However, even I find myself hesitant to use this title for the reasons outlined.

#### The terminology of reproductive failure and its associated ideas in the ancient medical texts

There are many words and phrases linked to fertility in the ancient medical texts and these can be split into two categories. The first are words that directly relate to the inability to bear children, e.g. *ἄφορος*, *ἄγονος*, *ἄτοκος* and *στεῖρα*. The second category is the use of the negatives alongside words that mean fertile or the act of bearing a child, e.g. *γόνιμος* and *συλλαμβάνω*.

In the rest of this chapter, I shall focus first on specific words used to convey the ideas surrounding reproductive failure and then look at the use of the negative with particular words. To date there

has been little analysis in modern scholarship of the ancient words used to describe someone as being unable to conceive. The only analysis of this type I have found is in Flemming's 2013 article which includes a discussion on infertility in the Hippocratic Corpus and the works of Aristotle, where she offers a short analysis of words surrounding infertility, particularly focusing on the words ἄφορος and ἄτοκος. Flemming (2013, p. 576) notes that these two terms are '...negative adjectives referring to the absence of a productive bearing, or bringing forth, and which therefore, contain their positive versions within them, unless blocked by the fixitives, "permanently" or "completely". However, I think that closer analysis of the language surrounding infertility is an essential part of understanding how the ancient Greek medical writers viewed infertility.

The association of the negative alongside ancient Greek words for fertility is a strong one, we either find positive words alongside the negative μή or οὐ, as stated, or we find an acknowledgement of the negative within the words themselves. Many of the words used to describe infertility make use of the alpha-privative; for example ἄτοκος comes from the noun τόκος, meaning childbirth, and ἄφορος derives from the adjective φορός meaning bearing or being productive. Where we find the addition of the alpha-privative to a word we rarely find the use of the negative alongside the word it is derived from, so for example μη or οὐ is not found with τόκος or φορός. The alpha-privative brings a negative sense to a word, and can both signify negation or a stand as an opposite to the original (Mortley, 1982, p. 429). Normally words with the alpha-privative are translated with the English prefix of in- or un-, so ἄφορος would become unproductive or infertile. I shall begin my analysis with these two words, but as the rest of this chapter will demonstrate, there are many more words associated with fertility and looking at the meanings of these can give an insight into how infertility was defined by the ancient medical writers and suggest how we might best understand these words today.

### ἄφορος

ἄφορος is a key term used to refer to infertility, defined in the LSJ as meaning 'not bearing' or 'barren', with Flemming (2013, p. 573) stating that the literal translation of ἄφορος is 'non-bearing'. In the works of the ancient medical authorities, the word appears to be primarily the

preserve of the Hippocratic Corpus, only being found once in the texts of Aristotle (*HA.538a1*) in a passage noting that in different types of animals, some individuals bear children and some do not.<sup>72</sup> More specifically, it is mostly limited to the three books of *Diseases of Women*. Out of the twenty-four occurrences of this word in the Hippocratic texts, twenty-one are found within the three books of *Diseases of Women*,<sup>73</sup> and while by far the largest amount are found in book 1 where it appears thirteen times, it is also found twice in book 2 and six times in book 3. This is perhaps somewhat surprising when we consider that one of the occurrences in book 3 is in the title of the book (περι ἀφόρων) and yet it is book 1 where the word is used most frequently.

The meaning of the word ἄφορος is often best translated as ‘infertile’ because the inability to conceive seems to be temporary. For example:

- (i) μάλιστα δὲ ἐκ ταύτης τῆς νόσου ἄφοροι γίνονται.

Generally women become infertile from this disease [on the mouth of the uterus folding under itself].

(*Nat.Mul.7.13-14 L.7.322.9-10*; trans.Potter, 2012, p. 203)

- (ii) μέτρια δ’ ἐστὶ πάση γυναικὶ χωρέειν, ἣν ὑγιαίνει, τὰ ἐπιμήνια ἐλθόντα ὅσον κοτύλαι δύο ἄττικαι ἢ ὀλίγω πλέονα ἢ ἐλάσσονα, ταῦτα δὲ ἐφ’ ἡμέρας δύο ἢ τρεῖς· ὁ δὲ πλείων χρόνος ἢ ἐλάσσων ἐπίνοσος καὶ ἄφορός ἐστι.

An average amount of menses for any healthy woman is about two Attic cotyls – or a little more or a little less – and this appears, moreover, for two or three

<sup>72</sup> ὥσπερ ἐν φυτοῖς τὰ μὲν εὐφορὰ ἐστὶ τὰ δ’ ἄλλ’ ἄφορα, οὕτω καὶ ἐν τούτοις. ‘some individuals bear and some do not’ (Arist.*HA.537b30-538a1*; trans.Peck, 1970, p. 89).

<sup>73</sup> Of the three occurrences outside of *DW* one is found in the text *Nat.Mul.7.14 L.7.322* which will be discussed below. Another is a description of the earth in *Morb.Sacr.4 L.7.368* and the third is in *VM.8.4 L.1.586.6* and it is used to describe a disease as ‘unbearable’ ἀνὴρ γὰρ κάμνων νουσήματι μήτε τῶν χαλεπῶν τε καὶ ἀφόρων, μήτ’ αὖ τῶν παντάπασιν εὐηθέων... ‘Take a man suffering from a disease that is neither difficult and unbearable nor again entirely mild’ (trans.Schiefky, 2005, p. 83).



days; a longer or shorter time than this is unhealthy and suggests barrenness  
[infertility].

(DW.1.6.3-6 L.8.30.8-11; trans.Hanson, 1975, p. 575)

- (iii) ἦν γὰρ ἐλάσσονας ἢ πλέονας ἡμέρας τοῦ μάθεος φοιτέη, ἢ αὐτὰ ἐλάσσονα ἢ πλείονα ἔη, ἐπίνοσά ἐστιν, ἦν μὴ ἡ φύσις αὐτῇ νοσηρὴ καὶ ἄφορος ᾗ.

For if the menses come for more or less days than in her previous experience or if they come in less or greater quantity, they are unhealthy, unless she herself is [infertile] barren by nature.

(DW.1.6.8-10 L.8.30.13-15; trans.Hanson, 1975, p. 575)

It is interesting to note that ἄφορος is often translated as ‘barren’, however, I have placed ‘infertile’ in square brackets here as I believe in these cases the meaning is closest to infertile, as there is no suggestion that this is a permanent state. The idea of ἄφορος being a potentially temporary state is strengthened when we consider that it is often found alongside the words πάντα and αἰεὶ, as in the following examples:

- (i) τοσαῦτα καὶ τοιαῦτα τῇσι γυναιξίν ἐστι, δι’ ἃ οὐ τίκτουσι πρὶν ἂν ἰηθέωσι, καὶ δι’ ὅσα ἄφοροι γίνονται τὸ πάντα· ὥστε θαυμάζειν τὰς γυναῖκας οὐ χρὴ ὅτι εἰσὶν αἱ οὐ τίκτουσι πολλάκις.

This is the number and kind (sc. of causes) in women that prevent them from giving birth, until they are healed, and through which they become completely barren: thus, there is no need to be surprised that there are often women who fail to give birth.

(DW.3.213.79-84 L.8.414.13-16; trans.Potter, 2012, p. 339)<sup>74</sup>

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<sup>74</sup> As stated on p.54 Flemming (2013, p. 573) translates ἄφοροι in this passage as barren offering this translation: ‘These are the many varied causes in women on account of which they do not bring forth children before they are treated, and on account of which they become completely barren (ἄφοροι). It is no wonder, therefore, that women often cannot produce children’.

- (ii) καὶ ἦν τὸ στόμα τῶν μητρέων ἐκπέσῃ τοῦ αἰδοίου, οὐδ' οὕτω λαμβάνει ἐν γαστρί· τό τε γὰρ στόμα σκληρὸν γίνεται, καὶ οὐ δέχεται τὴν γονὴν, καὶ οἰδέει, καὶ ταύτη ἄφορος γίνεται τὸ πάμπαν· δῆλον δὲ τὸ πάθημα τοῦτο δι' ὃ τι γίγνεται.

If the mouth of the woman's uterus prolapses out of her vagina, in this case too she does not become pregnant, since the (sc. uterine) mouth becomes hardened and does not admit the seed, and then it swells up making the woman completely barren. This condition is revealed by what happens.

(*DW.3.213.71-75 L.8.414.3-6*; trans.Potter, 2012, p. 337)<sup>75</sup>

- (iii) καὶ ἦν τοῦτο γένηται, οὐ περιγίνεται ἡ γυνή· ἦν δὲ καὶ περιγένηται, αἰεὶ ἄφορος ἔσται...

But even if she should survive she will always be barren [on retention of pus filled menses]...

(*DW.1.2.69-70 L.8.2.20.8-9*; trans.Hanson, 1975, p. 574)

The addition of *πάμπαν* and *αἰεὶ* suggests that there is a distinction been made between *ἄφορος* as a temporary state and those in whom *ἄφορος* has become a permanent state.

However, close analysis of the texts make it clear that this distinction is not always clear, as these passages demonstrate:

- (i) καὶ κινδυνεύσει ἀποθανεῖν, ἦν δὲ καὶ περιγένηται, ἄφορος ἔσται.

[If women retain menses] ...women run the risk of dying, and even if she would survive, she will be infertile...

(*DW.1.3.23-24 L.8.24.9-10*; own translation)

<sup>75</sup>cf. *DW.2.145.9-10 L.8.320.8-9* καὶ ἦν μὲν ἐν τάχει θεραπευθῇ, ὑγίης γίνεται· ἄφορος δὲ πάντως καταλιμπάνεται... [On a complete prolapse of the uterus] 'If this is treated quickly, the woman will recover, but become completely infertile' (Own translation) and νῦν δὲ ἀποφανέω, δι' ἧς αἰτίας ἄφοροι γυναῖκες τὸ πάμπαν, καὶ διότι οὐ τίκτουσι πρὶν ἰηθῶσιν '...and now I shall explain the main causes that make them barren, and why they do not give birth until they are cured' (*DW.3.213.2-3 L.8.408.2-3*; trans.Potter, 2012, p. 331).

- (ii) δῆλον δὲ καὶ τόδε τοῖσιν ἐπιμηνίοισιν ὅποσα [ὀκόσα πολλά] χωρήσει· καὶ ἥν μὲν φύσει ἢ γυνὴ πολλὰ χαλᾷ τὰ καταμήνια, ἄφορος γίνεται· ἥν δὲ μὴ φύσει, ἀλλ' ὑπὸ παθήματός τινος τῶν εἰρημένων, μελεδανθεῖσα ἐν τάχει<sup>76</sup> φορὸς ἔσται.

If a woman discharges excessive menses naturally, she will become barren [infertile], whereas [if] this is not natural but due to one of the aforementioned diseases, treatment will immediately restore her to fertility.

(*DW*.3.213.68-71 L.8.412.24-414.3; trans.Potter, 2012, p. 337)

- (iii) ἄφορος δὲ ἔσται καὶ ἥν ῥαΐση, ἥν μεγάλα ἢ τὰ ἔλκεα γενόμενα ἐν τῇσι μήτρῃσιν.

She will be barren [infertile] – even if she recovers – if the lacerations [caused by ulcers] in her womb become large.

(*DW*.1.2.64-65 L.8.20.3-4; trans.Hanson, 1975, p. 574)<sup>77</sup>

In these examples, the exact meaning is not clear; on one hand there is no qualifying πάμπαν and αἰεὶ, but there is also a sense in each that the state of ἄφορος has become permanent. It is tempting to read these passages as the woman ‘will become permanently infertile’ because of the context, i.e. she will become ill but even if she recovers, she will remain infertile. However, as the Hippocratic authors feel the need to add πάμπαν and αἰεὶ in some other cases, the lack of these words in these passages suggests that there is the potential for the woman to become fertile again at a later stage.

#### ἄτοκος

ἄτοκος is defined by the LSJ as meaning both ‘barren’ and ‘someone who has never borne a child’, and it is used only in reference to women.<sup>78</sup> What is more ἄτοκος is used to describe the

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<sup>76</sup> ἐν τάχει omitted in V.

<sup>77</sup> cf. *DW*.1.8.42-43 L.8.38.4-5; *DW*.1.3.27-28 L.8.24.11-13.

<sup>78</sup> Flemming (2013, p. 573) states that ἄτοκος literally means ‘not bringing forth/nonbirthing’.

fertility of women under two slightly different circumstances.<sup>79</sup> Again, we primarily find this word used in the Hippocratic Corpus; it is not found at all in the biological works of Aristotle.<sup>80</sup>

In the Hippocratic Corpus, the most common use of ἄτοκος is to identify a woman who has never given birth, for example:

- (i) γίνεται δὲ πάντα μᾶλλον μὲν τῇσιν ἀτόκοισιν, γίνεται δὲ πολλάκις καὶ τῇσι τετοκυῖσιν All these diseases, then, happen more frequently to women who have not borne a child, yet they also happen to those who have.

(*DW*.62.1 L.8.126.4; trans.Hanson, 1975, p. 581)

- (ii) εἰ δὲ καὶ τι πάθημα τῇ γυναικὶ γένοιτο τῇ ἤδη τετοκυῖῃ, ὥστε τὰ καταμήνια μὴ δύνασθαι καθαρθῆναι, ῥηϊτέρως τὸν πόνον οἴσει ἢ εἰ ἄτοκος ᾖν.

In fact, if some additional suffering should befall a woman who has already given birth so that her menses cannot be got rid of, she will endure the pain more easily than a woman who has not borne a child.

(*DW*.1.15 L.8.10.15; trans.Hanson, 1975, p. 570)<sup>81</sup>

In the examples above ἄτοκος is used simply to mean that a woman has never had a child, not to suggest that she is having any trouble bearing a child. As Rebecca Flemming (2013, p. 11–12) notes ἄτοκος is used in the gynaecological texts ‘...to denote a woman who has not yet borne a child, regardless of whether or not she has tried; that is, it signifies a current physical state, with an open future’. However, although ἄτοκος is mainly used in this way, I would argue that it is also found being used in a similar way as ἄφορος, to describe a woman as infertile; for example:

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<sup>79</sup> ἄτοκος also has a different meaning when not referring to fertility, it can also refer to not bearing or paying interest in terms of money, e.g. *Airst.Oec*.1350a11; *Pl.Lg*.921c7.

<sup>80</sup> It is found twice in non-biological works, once with reference to money (see above footnote) and once in *APr*.67a35 where it is used to describe mules as sterile.

<sup>81</sup> Similar examples can be found throughout the Hippocratic Corpus for example: *DW*.1.2.1 L.8.14.8; *DW*.1.3.29 L.8.24.14; *DW*.1.4.30 L.8.28.6; *DW*.1.19 L.8.10.19; *DW*.145.3 L.8.320.2; *Coac*.540 L.5.708.1–2.

- (i) κίνδυνος τὸ πάμπαν ἄτοκον γενέσθαι...

There is a danger that the woman will become completely infertile...

(*DW.1.160.4 L.8.338.6*; own translation)<sup>82</sup>

- (ii) ὥς δὲ τὰ πολλὰ ἐκ τῆς νόσου ταύτης ἐκφεύγουσι, καὶ ἄτοκοι γίνονται.

In most cases the person is cured but becomes infertile.

(*DW.1.63.46 L.8.130.18*; own translation)

- (iii) ἐπὶ δὲ ταύτης τῆς νόσου, ἣν μὴ αὐτίκα σχῇ ἐν γαστρὶ, ἄτοκος γίνεται

In this disease, if the woman does not become pregnant immediately, she becomes infertile...

(*DW.1.134.32-33 L.8.304.22-23*; own translation)

- (iv) ἄτοκοι δὲ καὶ χωλαὶ ἐκ ταύτης τῆς νόσου γίνονται.

Women become sterile [infertile] and lame from this disease.

(*Nat.Mul.14.12-13 L.7.332.12-13* trans.Potter, 2012, p. 213)<sup>83</sup>

The examples above describe how a woman becomes infertile due to a sickness or disease; it is not clear in these cases whether ἄτοκος refers to a woman who has previously borne children and can no longer do so or whether it refers to a woman who before would have been simply childless and is now incapable of bearing children. In each example, the woman is described as having a disease that leads to her becoming ἄτοκος, so the translation of ‘childless’ in these cases does not seem appropriate, and seems to suggest the author is thinking of a state more like infertility. In addition, in the first example the use of πάμπαν alongside ἄτοκος suggests that infertile is a more appropriate translation from this word than ‘sterile’ as Potter chooses to translate it.

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<sup>82</sup> cf. *Nat.Mul.21.4 L.7.340.13* ...κίνδυνος τὸ πάμπαν ἄτοκον γενέσθαι...

<sup>83</sup> cf. *DW.230.5 L.8.438.14* κίνδυνος τὸ πάμπαν ἄτοκον γενέσθαι....

In many occurrences of the word ἄτοκος it is difficult to determine exactly what the author of the texts is trying to convey. If we consider the following examples, we see two alternative translations are possible:

- (i) ἔπειτα πολλὰς ἀτόκους ὑπὸ νόσου καὶ οὐ φύσει ἐκτιτρώσκεσθαι τε πυκνά.

Then many are barren [infertile/childless] through disease and not by nature, while [miscarriages] are frequent.

(*AWP*.3.14-15 L.2.18.3-4; adapted trans.Jones, 1923a, p. 75)

- (ii) τὰ πνεύματα τοῖσι φθινώδεσι τὰ ἄσημα, κακά, καὶ τοῖσιν ἀτόκοις, καὶ ὅσα ἄλλα τοιαῦτα, ἀπὸ τῆς αὐτῆς καταστάσιος.

Breathing that is without symptoms in consumptive people is bad. So, too, in the barren [infertile/childless], and all such things that come from the same condition.

(*Epid*.6.7.8.1-2 L.5.342.1-2; trans.Smith, 1994, p. 277)

- (iii) καθαρτικὸν δυνάμενον ἄτοκον καθῆραι ...

A pessary to cleanse an infertile [childless] woman...

(*DW*.85.1 L.8.210.7; own translation)<sup>84</sup>

Any of these passages could be read as describing someone who is infertile or someone who has never had a child. In the first passage, the suggestion is that it is a disease that causes childlessness, making the meaning of ἄτοκος more likely to be ‘infertile’, but ‘childless’ would also work. In the second example either ‘infertile’ or ‘childless’ would be valid, as it would in the third passage. Therefore, the meaning of the word ἄτοκος is less straightforward than Flemming suggests.

If we look outside the medical texts, we find a slightly different use of the word ἄτοκος in Plato’s *Theatetus*, in the following description of the suitability of a woman to be a midwife:

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<sup>84</sup> cf. *DW*.89.1 L.8.212.13

αἰτίαν δέ γε τούτου φασὶν εἶναι τὴν Ἄρτεμιν, ὅτι ἄλοχος οὔσα τὴν λοχεῖαν εἴληχε. στερίφαις μὲν οὖν ἄρα οὐκ ἔδωκε μαιεύεσθαι, ὅτι ἡ ἀνθρωπίνη φύσις ἀσθενεστέρα ἢ λαβεῖν τέχνην ὣν ἂν ἡ ἄπειρος· ταῖς δὲ δι' ἡλικίαν ἀτόκοις προσέταξε τιμᾶσα τὴν αὐτῆς ὁμοιότητα.

They say the cause of this is Artemis, because she, a childless goddess, has had childbirth allotted to her as her special province. Now it would seem she did not allow barren women to be midwives, because human nature is too weak to acquire an art which deals with matters of which it has no experience, but she gave the office to those who on account of age were not bearing children, honouring them for their likeness to herself.

(Pl.*Thet.*149b8-c3; trans.Fowler, 1921, p. 31)

Here Plato states that women who are στερίφαις, which according to the LSJ means 'barren',<sup>85</sup> because of their lack of experience are not chosen as midwives. Instead, Artemis gives the work to women who are ἀτόκος, because of their age, that is they are past the age of childbearing. These women may never have given birth and this would fit into our understanding of ἀτόκος from the medical texts. However, the fact that Artemis is said to reject women without experience suggests that ἀτόκος may not always refer to a woman who has never had children but could be that they were not capable of this at the present time.<sup>86</sup>

### ἄγονος

ἄγονος is another key term used in the ancient medical texts to describe the inability to conceive. The *Thesaurus Linguae Graecae* (TLG) lists 1097 occurrences of this word in all its forms. The frequency of its occurrence is, in part, due to the word being used to describe the fertility status

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<sup>85</sup> The word derives from στέριφος, which can mean barren but is mostly used to refer to frozen or solid ground. It is found once in Aristotle (*HA*.611a12) in reference to horses σημείον δέ· πολλάκις γὰρ αἱ στέριφαι ἀφαιρούμεναι τὰς μητέρας τὰ πωλία αὐταὶ στέργουσι, διὰ δὲ τὸ μὴ ἔχειν γάλα διαφθεύουσιν. 'Evidence of this is that often the barren mares steal the dams' foals, and are the ones that care for them, but through having no milk cause their death' (trans.Balme, 1991, p. 239).

<sup>86</sup> This is not to say that this is the entirely the case outside the ancient medical texts; for example in Euripides' *Electra*, Electra when talking about the rites which need to be performed for her baby states τριβὼν γὰρ οὐκ εἴμ', ἄτοκος οὔσ' ἐν τῷ πάρος. 'I am inexperienced, for I have never been a mother before.' (1127; trans.Kovacs, 1994, p. 275).

of humans, animals, the land and plants. The main definitions of this word given in the LSJ are ‘unfruitful’ and ‘sterile’ in animals and in plants, with flowers being ‘sterile’ and seeds ‘infertile’. In humans, ἄγονος is used to describe the inability of a person to procreate, but it is also used more specifically to describe the fertility of semen. In non-medical works ἄγονος seems only to be used to describe the fertility status of the body as a whole; for example Athenaeus (2.13.18; trans.Olson, 2007, p. 239) describes how Theophrastus states ‘that some fresh water promotes sterility [ἄγονα] or hinders fertility, as for example the water of Pheta and Pyrrha’.<sup>87</sup> Elsewhere Plato (*Lg.*784b3) uses ἄγονος to describe an unproductive marriage.<sup>88</sup>

Aristotle makes the most frequent use of the term ἄγονος. In most instances he uses it in relation to semen, but sometimes it is directly used to describe the fertility of semen and in other cases, its use is less clear. To examine this I shall first give examples of those uses directly relating to semen and then some of those that are more ambiguous; below are some examples of the former:

- (i) μέχρι μὲν οὖν τῶν τρις ἑπτὰ ἐτῶν τὸ μὲν πρῶτον ἄγονα τὰ σπέρματά ἐστιν.

Now up to thrice seven years the seeds are at first infertile.

(*HA*.582a17; trans.Balme, 1991, p. 423)

- (ii) ἔστι δὲ τὰ μὲν λεπτὰ τῶν σπερμάτων ἄγονα.

It is the thin seed that is infertile.

(*HA*.582a30; trans.Balme, 1991, p. 425)

- (iii) διόπερ εὐλόγως βασανίζεται ταῖς πείραις τό γε τῶν ἀνδρῶν, εἰ ἄγονον, ἐν τῷ ὕδατι.

<sup>87</sup> καὶ τῶν γλθκέων δὲ φησιν ὕδατων ἓνια ἄγονα ἢ οὐ πολύγονα, ὡς τὸ ἐν Φέτῃ καὶ τὸ ἐν Πύρρῃ. A similar line appears at 2.15.17 ἐν δὲ τῷ Περὶ Φυτῶν ἐνιαχοῦ φησιν ὕδωρ γίνεσθαι παιδογόνον ὡς ἐν Θεσπιαῖς, ἐν Πύρρῃ δὲ ἄγονον. Discussion on the relationship between water and its effects on fertility can be found in chapter 4.

<sup>88</sup> ἂν δὲ ἄγονοί τινες εἰς τοῦτον γίνωνται τὸν χρόνον... ‘...but in case any are without issue to the end of this period...’ [the 10 year period that a marriage would be supervised for procreation] (trans.Bury, 1926, p. 497).



On this account the water-test is quite a fair one for infertility in the male semen.

(GA.747a4; trans.Peck, 1942, p. 247)

- (iv) τὸ γὰρ τῶν νέων ἐν πᾶσι τοῖς ζῴοις τὸ μὲν πρῶτον ἄγονον, γονίμων δ' ὄντων ἀσθενέστερα καὶ ἐλάττω τὰ ἔκγονα.

The earliest secretion in the young of all animals is infertile, or even if it is fertile, the offspring tend to be small and weak.

(HA.544b15; trans.Peck, 1970, p. 133)

These examples clearly relate to the fertility of semen;<sup>89</sup> it is the semen or more specifically the seed that is infertile, rather than infertility coming from any other source. However, as previously stated, in other passages the use of ἄγονος and its relation to semen is not as clear, particularly when it is used to describe the infertility of females. The degree of ambiguity does differ depending on the passage; in the example below it is clear that ἄγονος is being used to describe a man as being infertile, but the reason given for the infertility is the effect that having a large penis has on the semen:

ὅπερ συμβαίνει καὶ ἐπὶ τῶν μέγα τὸ αἰδοῖον ἐχόντων· ἄγονώτεροι γὰρ εἰσι τῶν μετριαζόντων διὰ τὸ μὴ γόνιμον εἶναι τὸ σπέρμα τὸ ψυχρόν, ψύχεσθαι δὲ τὸ φερόμενον λίαν μακράν.

This in fact does happen with men who have a large penis; they are less fertile [literally more infertile] than those who have moderately large one, because the semen gets cooled off by being transported too great a distance, and cold semen is not generative.

(GA.718a23; trans.Peck, 1942, p. 27)<sup>90</sup>

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<sup>89</sup> cf. GA.725b15; GA.739a10; GA.739a26; HA.523a26.

<sup>90</sup> See chapter 4 for a discussion on this passage.

Based on the examples it would be tempting to see ἄγονος as a word which describes male infertility (or in the case of the last example, poor fertility), but Aristotle also uses the word in regard to female fertility. The first example of this is:

ἐοικε δὲ καὶ τὴν μορφήν γυναικὶ<sup>91</sup> παῖς, καὶ ἔστιν ἡ γυνὴ ὥσπερ ἄρρεν ἄγονόν· ἀδυναμία γάρ τινι τὸ θῆλυ ἔστι, τῷ μὴ δύνασθαι πέττειν ἐκ τῆς τροφῆς σπέρμα τῆς ὑστάτης (τοῦτο δ' ἔστιν ἢ αἷμα ἢ τὸ ἀνάλογον ἐν τοῖς ἀναίμοις) διὰ ψυχρότητα τῆς φύσεως.

Further, a boy actually resembles a woman in physique, and a woman is as it were an infertile male; the female, in fact, is female on account of inability of a sort, viz., it lacks the power to concoct semen out of the final state of the nourishment (this is either blood, or its counterpart in bloodless animals) because of the coldness of its nature.

(GA.728a18; trans.Peck, 1942, p. 103)

In this passage, Peck translates the line ‘a woman is as it were an infertile male’. However, I think that translating this as a woman being an ‘infertile male’ is somewhat misleading, as Aristotle goes on to say in the rest of the passage that women are incapable of producing semen due to the coldness in their nature. As Aristotle does not believe that woman could produce semen he could be using ἄγονος in the passage because of its connection to semen; as women do not have semen they will always be ‘infertile’ in this regard. This does not, however, mean that Aristotle literally regards women as infertile. In a similar passage, Aristotle states:

καὶ αἱ γυναῖκες οὐ φαλακροῦνται· παραπλησία γὰρ ἡ φύσις τῇ τῶν παιδίων· ἄγωνα γὰρ σπερματικῆς ἐκκρίσεως ἀμφοτέρω .

Women do not go bald because their nature is similar to children: both are incapable of producing seminal secretion.

(GA.784a5-6; trans.Peck, 1942, p. 525)

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<sup>91</sup> γυναικὶ Z: γυνὴ καὶ vulg. (Peck, 1942, p. 102 note 1.)

Here Aristotle is clearly making the link between women being childlike and not producing semen, again using ἄγονος to describe this.<sup>92</sup> Therefore, perhaps a better or more literal translation would be ‘a woman is as it were a seedless-man.’

So far, I have explained how Aristotle uses ἄγονος in terms of semen only. However, it can also be used when discussing how the lack of menstrual fluid (or residue) leads to infertility, but interestingly it is *only* when men and women are being discussed simultaneously. Two examples of this are given below:

- (i) καὶ οἱ πίνοντες δὲ ἄγονώτεροι φαίνονται εἶναι τῶν μὴ πίνων, καὶ γυναῖκες καὶ ἄνδρες, διὰ τὸ τοῖς εὐτραφέσι πεττόμενον τὸ περίττωμα γίνεσθαι πιμελήν· ἔστι γὰρ καὶ ἡ πιμελὴ περίττωμα, δι’ εὐβοσίαν ὑγιεινόν.

And further it seems that fat people, men and women alike, are less fertile than those who are not fat, the reason being that when the body is too well fed, the effect of concoction upon the residue is to turn it into fat (since fat also is one of the residues, a healthy one, because it results from good living).

(GA.726a3-5; trans.Peck, 1942, p. 87)

- (ii) γίνεται δὲ τὰ μὲν ἰατὰ τὰ δ’ ἀνίατα τῶν τοιούτων, μάλιστα δὲ διατελοῦσιν ἄγονα <τὰ> κατὰ τὴν πρώτην σύστασιν τοιαῦτα γενόμενα γίνονται γὰρ γυναῖκές τε ἀρρενωποὶ καὶ ἄνδρες θηλυκοί, καὶ ταῖς μὲν οὐ γίνεται τὰ καταμήνια, τοῖς δὲ τὸ σπέρμα λεπτὸν καὶ ψυχρόν.

Some of these deformities are curable, some are not; those, however, who have become deformed during the original constitution of the embryo, have a special tendency to remain infertile throughout; thus, masculine-looking women are

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<sup>92</sup> Aristotle uses ἄγονος in a similar way in *Pr.*900b15 when he is asking why boys and women have shrill voices but men have a deep voice; cf. *Pr.*900b24 and *Pr.*903.27.

produced in whom the menstrual discharges do not occur, and effeminate men whose semen is thin and cold.

(GA.746b35; trans.Peck, 1942, p. 247)

In both of these examples, ἄγονος is used to describe both men and women because the infertility it is describing is linked to the lack of either seminal residue or menstrual residue, which as described above Aristotle believes are analogous. However, I have not found any example where Aristotle uses ἄγονος to describe infertility caused by the lack of menstrual fluid when only the infertility of women is being discussed. Therefore, the use of ἄγονος for Aristotle seems to be directly linked to infertility caused by the lack of semen or its quality in men; it is only used in relation to women if it is describing their lack of semen or if menstrual fluid is being described in conjunction with semen.<sup>93</sup>

One further point to consider here is whether ἄγονος is used to describe a permanent state of infertility, like sterility, or used to describe a state of fertility that is able to change. With the exception of describing women as ἄγονος compared to men, as this is not a state that will change, ἄγονος seems to be used to describe a temporary state; that is, a person who is ἄγονος may later become fertile or vice versa. This seems clear when the following two passages are considered:

- (i) διὸ ἐνίων γε καὶ ἄγονόν ποτε γίνεται τὸ ἀποχωροῦν διὰ τὸ ὀλίγον ἔχειν τὸ σπερματικόν.

This explains why at certain times with some persons the emission is infertile.

(GA.725b15; trans.Peck, 1942, p. 85)

- (ii) φαίνονται δ' οὖν μεταβάλλουσαι καὶ γυναῖκες καὶ ἄνδρες, ὥσπερ ἐξ ἀγόνων γόνιμοι...

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<sup>93</sup> I should note here that there are three apparent exceptions to this, all of which appear within lines of each other at GA.746b17, GA.746b18 and GA.746b22. All three sentences state 'men and women are sterile' without further confirmation of the reason. However, these are leading in to a long description of how infertility is caused by the lack of semen and menstrual fluid and the causes.

Anyway, both men and women are observed to change: not only do the infertile become fertile...

(GA.723a27; trans.Peck, 1942, p. 65)

In both these examples, the infertile state of the person can change over time and therefore ἄγονος is not being used to describe a permanent state.

The use of ἄγονος in the Hippocratic Corpus is much less frequent than in Aristotle; in fact, there are only nine instances of ἄγονος in all its forms in the corpus, according to the TLG and the *Index Hippocraticus*. The meaning of ἄγονος in the Hippocratic texts seems to be much wider than in Aristotle. For example, in *Epidemics* 2.6.10.5, 2.6.10.6 and 2.6.8.2 ἄγονος is used to describe the unproductive days for illnesses compared to productive (γόνιμος)<sup>94</sup> days.

In terms of fertility ἄγονος is used in the Hippocratic texts, as in Aristotle, to describe the infertility of semen, specifically infertility of semen caused by a cut behind the ear. The two examples of these are:

όκόσοι δὲ παρ' οὗς τετμημένοι εἰσὶν, οὗτοι λαγνεύουσι μὲν καὶ ἀφιᾶσιν, ὀλίγον δὲ καὶ ἀσθενὲς καὶ ἄγονον...

Persons who are incised beside the ears are able to have intercourse and to ejaculate, but it (i.e., their seed) is small in amount, weak, and sterile [infertile]...

(Gen.2.9 L.7.472.12-13; trans.Potter, 2012, p. 9–10)

εἰσὶ γὰρ παρὰ τὰ ὦτα φλέβες, ἃς ἐάν τις ἐπιτάμη, ἄγονοι γίνονται οἱ ἐπιτηθέντες [Regarding the Scythians] For by the side of the ear are veins, to cut which causes impotence...

(AWP.22.18 L.2.76; trans.Jones, 1923b, p. 127)

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<sup>94</sup> γόνιμος generally means fertile and the LSJ states that it is the opposite of ἄγονος.

In the second example, Jones translates ἄγονοι as impotence; I would suggest that this should be translated as infertility. I assume that Jones has chosen to translate this as impotence as in the next sentence it is stated that after this cut has been administered the Scythians cannot have intercourse when they first approach a woman. However, as in the passage prior to this the word εὐνουχία (*AWP.22.1 L.2.76*), which means impotence, is used to describe this affliction of the Scythians I believe infertile is a more accurate translation of ἄγονοι here.<sup>95</sup>

The three other occurrences of ἄγονος in the Hippocratic texts relate to infertility in women, as follows:

- (i) γυνή ἣν μὴ λαμβάνῃ ἐν γαστρὶ, βούλῃ δὲ εἰδέναι εἰ λήψεται, περικαλύψας ἱματίοισι, θυμία κάτω· κῆν μὲν πορεύεσθαι δοκῇ ἢ ὁδμὴ διὰ τοῦ σώματος ἐς τὸ στόμα καὶ ἐς τὰς ῥίνας, γίνωσκε ὅτι αὐτὴ οὐ δι' ἐωυτὴν ἄγονος ἐστίν.

If a woman does not conceive, and you wish to know if she will conceive, cover her round with wraps and burn perfumes underneath. If the smell seems to pass through the body to the mouth and nostrils, be assured that the woman is not barren [infertile] through her own physical fault.

(*Aph.5.59.4*; trans.Jones, 1931, p. 175)

- (ii) τὰς ἀγόνους πυριᾶν καὶ φαρμακεύειν.

To women who are barren [infertile] give a vapour bath and apply drugs.

(*Epid.2.5.6.4*; trans.Smith, 1994, p. 77)

- (iii) ...καὶ γινώσεται ἐν τέσσαρσιν ἡμέραις τὰς ἀγόνους, καὶ πυριῆν καὶ φαρμακεύειν.

[After applying a pessary] Within four days it will be determined if [the woman] is infertile, if so vapour baths and drugs should be administered.

(*DW.228.11 L.8.438*; own translation)

<sup>95</sup> See chapters 3 and 4 for a more detailed discussion of the differences in these two accounts.

All of these examples are related to determining the fertility of the woman through the use of pessaries or the treatment of the woman by using vapour baths and drugs. Like in Aristotle, the use of ἄγονος seems to relate to a state of fertility that is changeable, at least for female fertility. In the case of male infertility it is not clear whether when the cut behind the ear is administered, this leads to permanent or temporary infertility.

#### Other words used associated with reproductive failure

While the three words outlined above are three of the most important and reoccurring terms used to describe infertility in the ancient medical texts; however, there are many more. These include ἄτεκνος which the LSJ defines as meaning without children, childless or barren. Flemming (2013, p. 576) emphasises the childless aspect of this definition stating that its meaning is ‘innately reversible’. However, I do not think that this entirely explains the meaning of ἄτεκνος. In the Hippocratic text *Superfetation* it is stated:

κῆσιος δὲ καὶ παιδοποιήσιος ἥτις δέϊται καὶ ἄτεκνος ἐοῦσα καὶ ἤδη κῆσασα, ἐοῦσα δὲ τεκνοῦσσα...

A woman who wishes to become pregnant and to bear children, whether she is childless, or has already been pregnant, or has children...

(*Superf.*29.1 L.8.494; trans.Potter, 2010, p. 337)<sup>96</sup>

Here, ἄτεκνος seems to be referring to a woman who simply does not have children, without any suggestion that there is any reason for this childlessness. However, in a passage from *Nature of Women*, the Hippocratic author describes the problems that occur when the uterus moves towards the hip and the subsequent treatment of the condition. At the end of the passage he states:

μάλιστα δὲ ἐκ ταύτης ἄτεκνοι γίνονται.

Generally, women become sterile [infertile] from this disease.

(*Nat.Mul.*6.17 L.7.320.9-10; trans.Potter, 2012, p. 203)

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<sup>96</sup> cf. *DW*.217.2 L.8.418; *DW*.110.55 L.8.238.

In this translation, regardless of whether we decide to use the term ‘sterile’ or ‘infertile’ we cannot translate ἄτεκνος as ‘childless’ as we did in the previous passage. The movement of the uterus described before this sentence would not explain a woman ‘becoming childless’, but it may cause infertility.

We find similar uses of ἄτεκνος by Aristotle in *History of Animals*. He states that:

φύσει μὲν οὖν ἡ σύλληψις γίνεται μετὰ τὴν τούτων ἀπαλλαγὴν ταῖς γυναιξίν· καὶ ὅσαις μὴ γίνεται ταῦτα, ὥς ἐπὶ τὸ πολὺ ἄτεκνοι διατελοῦσιν.

Now by nature conception takes place in women after this discharge [i.e. menstruation] is completed; and those that do not have the discharge remain childless as a rule.

(*HA.582b13*; trans.Balme, 1991, p. 427)<sup>97</sup>

Here, since the reason the woman will remain childless is a lack of menstruation, this childlessness is due to an underlying cause and does not simply refer to the woman not having a child. In another passage, this time from outside Aristotle’s biological works, from the text *Problems*, we find the following description:

ὅτι δὲ μεγάλην ἔχουσι τὰ ὄμματα τὴν δύναμιν καὶ ὁ τόπος αὐτῶν πρὸς γένεσιν, δηλοῖ ἡ τῶν ἀτέκνων καὶ γονίμων<sup>98</sup> γυναικῶν τοῖς ἐναλείμμασιν πεῖρα, ὥς δέον ταύτη διελθεῖν εἰς τὸ σπέρμα δύναμιν.

It is clear, from the experiment with ointments<sup>99</sup> of both childless and fruitful [fertile] women, that the eyes and the region around them have a great potential with a view to generation, as potency must pass this way into the seed.

(*Pr.876b12*; trans.Mayhew, 2011, p. 147)

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<sup>97</sup> This is the only example of the use of ἄτεκνος in the biological works of Aristotle in reference to humans, it is however, used at *GA.755b19* in reference to fish and *HA.577a3* in reference to horses.

<sup>98</sup> γονίμων:ἀγόνων Forster (Mayhew, 2011, p. 146 n.4).

<sup>99</sup> This is the experiment where ointment is rubbed on a woman’s eyes which according to Mayhew (2011, p. 147 n.3) is used to determine if they are pregnant; however, the context suggests that this is used to determine fertility.



The use of ἄτεκνος in this passage could simply refer to a woman not having children; however, the fact that it is stated in comparison to the word γονίμων, meaning fertile, suggests that it is infertility rather than childlessness itself which is of concern here.<sup>100</sup>

So far, all the words which have been discussed have been adjectives and this reflects to some extent the nature of the ancient medical texts. Rebecca Flemming has stated that:

What is different, more distinctly ancient, in this medical vocabulary, is the lack of a noun equivalent to “infertility”, “sterility” or “barrenness,” and the insistence, instead, through adjectives, participles, and periphrases, that it is infertile, sterile, or barren, individuals, bodies and pairings that are being described, explained, and treated.

(Flemming, 2013, p. 576–577)

For the most part, I would agree with this statement; as the evidence attests, adjectives and participles are certainly the preferred choice when ancient medical writers are discussing infertility, and I agree that it is the individuals, bodies and couples who are being described as infertile rather than ‘infertility’ as a concept in its own right. However, it is not strictly true to say that we do not find a noun equivalent to these words in ancient Greek. Indeed Flemming herself (2013, p. 577 n.50) adds a footnote stating that the philosophical texts are different from those of the Hippocratic texts and that the nouns ἀτεκνία and ἀγονία are found in the biological works of Aristotle. In *Generation of Animals* Aristotle states:

τὰ δ’ αἷτια τῆς ἀγονίας ἐπὶ μὲν τῶν ἄλλων πλείω συμβαίνει.

Leaving this exception for the moment [that of the mule]: elsewhere the causes of sterility are numerous.

(GA.747b.20; trans.Peck, 1942, p. 245)<sup>101</sup>

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<sup>100</sup> Although all the examples given here relate to females there are two exceptions which can be found in EN.1099b4 and EN.1162a28, in the former it is used to describe a childless man and in the latter a childless marriage.

<sup>101</sup> This is the only example of ἀγονία being used with regard to humans in Aristotle. However, it is frequently used for animals e.g. GA.747a33 on animals in general; GA.750a31 in lions; GA.748b8, GA.748b12 in horses.

Here Aristotle uses ἀγονία, in relation to the cause of sterility.

Another noun we find in the ancient texts is ἀτεκνία, meaning ‘childlessness’<sup>102</sup> or ‘barrenness’.

It is not found in any of the medical texts but is used by Aristotle mainly to describe a childless couple rather than an individual body. For example in *History of Animals* it is stated that:

ὅσαις δὲ τούτων μηδὲν ἐμπόδιον ἢ ἀλλ’ ἔχουσιν ὃν τρόπον δὴ εἴρηται ἔχειν, ἂν μὴ ὁ ἀνὴρ αἴτιος ἢ τῆς ἀτεκνίας ἢ ἀμφοτέρωθεν μὲν δύνωνται τεκνοῦσθαι πρὸς ἀλλήλους δὲ μὴ ὥσι σύμμετροι τῷ ἅμα προίεσθαι ἀλλὰ πολὺ διαφωνῶσιν, ἔσσονται τέκνα τούτοις.

But where none of these impediments is present but the uterus is in the state that we have described, if it is not the case that the husband is the cause of the childlessness or that both are able to have children but are not matched to each other in simultaneous emission but are very discordant, they will have children.

(*HA*.636b8; trans.Balme, 1991, p. 507)

Here the childlessness of the couple is linked to the male partner, in that Aristotle is stating he is not the cause of the childlessness, but in other examples ἀτεκνία is used even more clearly to describe the infertility of the couple as a whole rather than the separate partners individually (e.g. *Pol*.1265a41 and *Pol*.1265b10). In *GA*.767a34 Aristotle uses ἀτεκνία to describe infertility caused by water in certain areas; in this example it is not specifically relating to a couple but it is referring to infertility affecting both males and females.<sup>103</sup> It is not clear, from any of these passages, if the couples or individuals described as ἀτεκνία have successfully had children previously. I would suggest that, at least in the case of couples, ἀτεκνία is being used to describe a couple who have not successfully reproduced in the past. ἀτεκνία does not appear in the Hippocratic Corpus or in

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<sup>102</sup> The most common ancient Greek word to express a person who has no children is ἄπαις; this is never found in the ancient medical texts or within the works of Aristotle but is frequently found outside these texts and particularly in tragedy e.g. *Eur.Andr.*33 and *Eur.Elec.*33. See also the quote from *Ion* (306) at the beginning of the chapter.

<sup>103</sup> Aristotle also uses ἀτεκνία to describe sterility in mules, *GA*.749a10.

the writings of Soranus or Galen, so no medical comparison can be made but as it is used in the biological writings of Aristotle I think it is worthy of note.

### The use of the negative

One of the most frequent ways in which the inability to produce a child is described in the ancient medical texts is not actually by a specific word but by using a negative with a positive word, particularly with οὐ and μή. The use of the negative in this way is found particularly with the words γόνιμος and συλλαμβάνω.<sup>104</sup>

γόνιμος generally means ‘fertile’ or ‘productive’, and changes with the negative to mean ‘not fertile’ (or ‘infertile’) and appears in Aristotle, to describe semen as infertile, for example:

ὅπερ συμβαίνει καὶ ἐπὶ τῶν μέγα τὸ αἰδοῖον ἔχόντων· ἀγονώτεροι γάρ εἰσι τῶν μετριαζόντων διὰ τὸ μὴ γόνιμον εἶναι τὸ σπέρμα τὸ ψυχρόν, ψύχεσθαι δὲ τὸ φερόμενον λίαν μακρά.

This in fact does happen with men who have a large penis; they are less fertile than those who have moderately large one, because the semen gets cooled off by being transported too great a distance, and cold semen is not generative.

(GA.718a24; trans.Peck, 1942, p. 27)<sup>105</sup>

Aristotle also uses γόνιμος to describe the viability of a foetus, particularly the eighth month foetus, for example:

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<sup>104</sup> The use of the negative is also found with other words such as γεννάω (meaning beget, produce from oneself), for example, in GA.722b13 the question is proposed of ‘why is it that female animals do not generate [οὐ γεννᾷ] out of themselves...’ (Peck, 1942, p. 59). I have found two examples where γεννάω is used to describe the inability of a couple to reproduce, specifically because the couple does not keep the same pace during intercourse (HA.636b14; HA.636b19). Also τεκνύω (procreate children); two examples are found in the Hippocratic Corpus, in *Superf.*25.11 L.8.488 and *DW.*219.10 L.8.424.9 μὴ τεκνύω is used to describe how you can surmise a woman is infertile when no smell is emitted on application of a pessary.

<sup>105</sup> cf. Arist.GA.725a10 and Arist.Pr.871a23.

τὰ δὲ μὴ γόνιμα ἀλλ' ἀποπεπνιγμένα ὀκτάμηνα ἐν τοῖς τόκοις οὐκ ἐκφέρουσιν ὀκτάμηνα αἱ γυναῖκες.

Those [foetuses] that are not fertile but have been suffocated at eight months are not delivered in eight month births.

(HA.583b32; trans.Balme, 1991, p. 439)

συλλαμβάνω is used to describe the action of female conception, and the word with the negative is only associated with infertility caused by an inability to conceive, as opposed to being able to carry a child. This use occurs with some frequency and is found in the writings of both Aristotle and the Hippocratic Corpus. If we look first at the use in Aristotle, for example:

- (i) ἂν γὰρ ἥ λεῖα τὰ χεῖλη, οὐ συλλαμβάνει...

For if the lips are smooth, conception does not occur...

(HA.583a22; trans.Balme, 1991, p. 43)

- (ii) αἱ δὲ μὴ δυνάμεναι συλλαμβάνειν, ἐὰν ἡ διὰ θεραπείαν συλλάβωσιν ἢ δι' ἄλλην τινὰ σύμπτωσιν, ὥς ἐπὶ τὸ πολὺ θηλυτοκοῦσι μᾶλλον ἢ ἀρρενοτοκοῦσιν.

If women who cannot conceive have been enabled to do so by treatment or by some other adventitious circumstances, they tend to bear females as a rule rather than males.

(HA.585b24; trans.Balme, 1991, p. 453)<sup>106</sup>

In both passages Aristotle suggests that conception does not occur under certain circumstances; in the second passage, he notes that if a woman has previously been unable to conceive, but now can, she is more likely to conceive a girl.

We also find the use of συλλαμβάνω with the negative in the Hippocratic texts, for example:

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<sup>106</sup> Other examples include HA.583a21; HA.582b18; HA.636a28.

- (i) εἰ γὰρ ἐν τῷ χωρίῳ τούτῳ μηδὲν ὑπεὸν κακὸν φαίνοιτο αἴτιον τῆς λεπτύνσιός τε καὶ τοῦ μη συλλαμβάνειν δύνασθαι, αἷμα ἐμέσαι τὴν γυναῖκα προσδόκιμον· τὰ δὲ καταμήνια τῇ τοιαύτῃ ἠφάνισθαι ἀνάγκη.

For if no evil present in that part exists which appears to be to blame for the thinness and inability to become pregnant [to conceive], expect that the woman will vomit up blood; in such women the menses must also disappear.

(*Prorrh.2.25.4*; trans.Potter, 1995, p. 275)

In this passage, the use of *μη συλλαμβάνειν* is straightforward, as it is describing the inability to conceive. However, in other passages from the Hippocratic Corpus *συλλαμβάνω* is used in a slightly different manner:

- (i) ἦν δὲ κατέχουσα τὴν γονὴν μὴ κυῖσκηται, ξυμβαίνει δὲ τοῦτο πλείστησι τοῦ στομάχου χανόντος τῆς μήτρης παρὰ φύσιν, τὰ ἐπιμήνια πλείω γίνεται τοῦ προσήκοντος καὶ ὑγρότερα, ὥστε τὸ ἀπὸ τῆς γυναικὸς μη ξυλλαμβάνεσθαι πρὸς τὴν τέκνωσιν, τὴν τε τοῦ ἀνδρὸς γονὴν ἐπιούσαν διαφθείρεσθαι· γίνεται δὲ ταῦτα τοῦ τε σώματος καὶ τῶν μητρέων νοσεόντων.

If a woman retains the seed, but does not become pregnant – this happens in most cases when the orifice of her uterus gapes open unnaturally – her menses passing in a greater amount than they should and too moist, so that her own contribution to gestation is not taken up, and the seed from her husband decomposes. These things occur when the woman's body and the uterus have some illness.

(*DW.241.1-6 L.8.454.6-11*; trans.Potter, 2012, p. 385)<sup>107</sup>

- (ii) καὶ ἦν πλείονα τοῦ δέοντος χωρέη τῇ γυναικὶ τὰ καταμήνια, οὐδ' οὕτως ἐν γαστρὶ λαμβάνει· αἱ γὰρ μήτραι, κεκενωμένου τοῦ αἵματος, οὐ ξυλλαμβάνουσι τὴν

<sup>107</sup> cf. *Prorrh.2.24.26 L.9.56.8*; *DW.3.213.66 L.8.412.22*; *DW.241.4 L.8.454.9*; *DW.232.3 L.8.446.3*; *DW.232.3 L.8.446.3*; *DW.213.56 L.8.412.12*.

γονήν ὑπὸ ἀσθενείης· ἂν δὲ ἄρα καὶ ξυλλάβωσιν, κατελθὼν τὸ αἷμα πολλὸν  
ἐξαπίνης ἐπὶ τὰς μήτρας τῆς γυναικὸς ἀποπνίγει τὴν γονήν.

If more menses pass in a woman than should, she will fail to become pregnant too; for her uterus, on being emptied of blood, is too weak to take up the seed: and even if it could take up the seed, the sudden movement of much blood down to the uterus would suffocate the seed.

(DW.3.213.64-68 L.8.412.20-24; trans.Potter, 2012, p. 337)

In these two passages, we see that συλλαμβάνω is used to describe a very specific part of conception, and the woman is described as not ‘taking up’ the semen into the uterus. This reflects one of the other uses of συλλαμβάνω, which outside the medical texts often means ‘seize/take hold’.

τίκτω, meaning to bring forth or give birth to is also used with the negative; unlike γόνιμος and συλλαμβάνω which focus on the inability to become pregnant, τίκτω focuses on the act of giving birth to a child. Its use, with regard to humans,<sup>108</sup> is limited to the Hippocratic Corpus and particularly to the third book of *Diseases of Women*, where we find the following two examples:

- (i) νῦν δὲ ἀποφανέω, δι’ ἧς αἰτίας ἄφοροι γυναῖκες τὸ πάμπαν, καὶ διότι οὐ τίκτουσι  
πρὶν ἰηθῶσιν.

...and now I shall explain the main causes that make them barren, and why they  
do not give birth until they are cured.

(DW.213.3 L.8.408.2-3; trans.Potter, 2012, p. 331)

- (ii) τοσαῦτα καὶ τοιαῦτα τῇσι γυναιξίν ἐστι, δι’ ἧς οὐ τίκτουσι πρὶν ἂν ἰηθῶσι, καὶ  
δι’ ὅσα ἄφοροι γίνονται τὸ πάμπαν· ὥστε θαυμάζειν τὰς γυναῖκας οὐ χρῆ ὅτι  
εἰσὶν αἱ οὐ τίκτουσι πολλάκις.

<sup>108</sup> In Aristotle τίκτω with a negative is limited to animals only e.g. GA.759b27, HA.553a18 on bees, HA.577a31 on horses and HA.560b24 on pigeons. In the Hippocratic texts we find οὐ τίκτει used in relation to worms in humans (Morb.4.54.33 L.7.598.1; cf. 54.41 L.7.598.9).

This is the number and kind (sc. of causes) in women that prevent them from giving birth, until they are healed, and through which they become completely barren: thus, there is no need to be surprised that there are often women who fail to give birth.

(DW.213.82 L.414.13-16; trans.Potter, 2012, p. 339)

The word *τίκτω* used with the negative is a way to say that a woman is unable to produce a living child, although it is not clear whether the author believes the woman also struggles to conceive as well, or whether it only relates to an inability to produce a living child from the pregnancy. We also find the word *τεκνῶω*, meaning to procreate or produce a child; with the negative it means that the woman has not given birth, for example:

ἦν δὲ μὴ τεκνούσῃ προσθῆς, οὐδέ ποτε ὄζει οὔτε καθαιρομένη οὔτε ἄλλως· οὐδ’ ἦν κυούσῃ προσθῆς, οὐδ’ οὕτως ὀζέσει· ἥτις δὲ κυῖσκειται πολλὰ καὶ ἀρικύμων ἐστὶ καὶ ὑγιαίνει, ἦν προσθῆς μὴδὲ καθήρας, ὀζέσει αὐτὴ τῆς κορυφῆς, ἄλλοτε δὲ οὔ.

If you apply this to a woman who has not given birth, she will never give off the odour, not even if she has been cleaned, nor in any other circumstances; nor if you give this suppository to a woman that is pregnant (sc. but had never given birth) will she give off odour in this way. But any woman that becomes pregnant often, is prolific, and is healthy, will smell from the crown of her head if you apply the pessary, even without a cleaning, not, however, otherwise.

(DW.219.10-14 L.8.424.9-13; trans.Potter, 2012, p. 349)<sup>109</sup>

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<sup>109</sup> cf. *Superf.*25.11 (L.8.488) Καὶ ἦν μὴ τεκνοῦσα ἦ, οὐδέ ποτε ὀζέσει, οὔτε καθαιρομένη οὔτ’ ἄλλως· οὐδ’ ἦν κυεούσῃ προσθῆ<ς>, οὐδ’ οὔτε καθαιρομένη οὕτως ὀζέσει. In this case Potter (2012, p. 333) translates μὴ τεκνοῦσα as ‘barren’ but I would translate this as ‘not given birth’ in the same way he has done in the passage from *DW*.

## Conclusion

As this analysis of some of the words used to explain the ideas surrounding infertility in the ancient medical text shows, trying to use modern words to explain ancient ideas is not easy. Firstly, we are attempting to use words which are describing a very modern understanding of the body to explain ancient views on the body. Secondly, the ancient medical writers themselves appear to use the same words to explain different concepts, such as in the case of ἄτοκος, which seems to mean both ‘never having yet conceived a child’ and ‘infertile’. The concept of infertility described in the ancient medical texts is of course based on a different understanding of the body and of how fertility works and therefore using modern terms is never going to be straightforward.

There are of course some similarities in the definitions and ideas surrounding infertility in the ancient medical texts and modern medicine. Infertility in both the ancient and modern worlds does not mean a person will not go on to conceive at a later date, whereas sterility does suggest this. Furthermore, infertility does not necessarily mean that the person has never conceived a child but that they are struggling to conceive at this time. In the ancient medical texts, we also find the concept of primary and secondary infertility as we do in the modern world, as the ancient medical writers do distinguish between those who cannot conceive, those who cannot carry a child to full term and those who have given birth to a live child and those who never have.

However, as the modern words surrounding infertility are so embedded in modern medicine they effectively need to be ‘stripped-back’ to their basic concepts. In the rest of this thesis, I shall use the word infertile as the inability to conceive or carry a child, when it is either clear this is a temporary state or not clear that it is a permanent one. I shall adapt any translations I use to reflect this. I shall also use the word infertile in the case of the use of πάντα and αἰεὶ along with certain words; for example, I will translate, ἄφορος γίνεται τὸ πάντα, as ‘become completely infertile’; although a little awkward in construction, I prefer this translation to changing the phrase to ‘become sterile/barren’. Occasionally, I shall use the word sterile depending on the context and the ancient Greek word being used. I will however, refrain from using the word barren, wherever



possible, as I do not believe this reflects the meaning of the ancient Greek in part because the word barren itself seems to hover somewhere between infertile and sterile.

### Chapter 3.

#### Causes of infertility – Physiology and disease

τοσαῦτα καὶ τοιαῦτα τῇσι γυναιξίν ἐστι, δι' ἃ οὐ τίκτουσι πρὶν ἂν ἰηθῶσι, καὶ δι' ὅσα ἄφοροι  
γίνονται τὸ πάμπαν· ὥστε θαυμάζειν τὰς γυναῖκας οὐ χρή ὅτι εἰσὶν αἱ οὐ τίκτουσι πολλάκις.

This is the number and kind (sc. of causes) in women that prevent them from giving birth, until they are healed, and through which they become completely [infertile]: thus, there is no need to be surprised that there are often women who fail to give birth.

(*DW.3.213.79-84 L.8.414.13-16*; trans. adapted from Potter, 2012, p. 339)

The passage above comes from the third book of *Diseases of Women* directly after the author has described the various causes of infertility. As the author of this text states, and as I shall demonstrate in this and the next chapter, the causes of infertility given in the Hippocratic Corpus are both numerous and wide ranging. However, what they all have in common is that one of the processes described in the theories of conception, outlined in chapter 1, is not being fulfilled. Within the ancient texts, we can identify three key areas, all of which can go awry, in the quest for the successful production of a child; these are the inability to produce or provide the materials needed for conception, to conceive, or to carry a child to full gestation. Within these three areas, we are given a variety of conditions and diseases that can affect a person's fertility. As the male role is limited to the first of these areas, the production and delivery of the materials needed for conception, the discussion in the ancient texts, naturally, focuses on the problems of female fertility. However, there is some discussion of male fertility issues in the texts and these will be described in the final part of this chapter.

As I shall demonstrate in this chapter, most of the causes of infertility in the Hippocratic Corpus are, unsurprisingly, related directly to diseases and disorders of the reproductive system. There are many discussions in the Hippocratic Corpus of diseases of the female reproductive system; in fact the three books of *Diseases of Women* are devoted to them. However, before exploring these causes I believe that it is important to note that not every discussion of reproductive diseases in the corpus is linked to infertility or even fertility. In the Hippocratic Corpus, there are many cases

where the authors are often more interested in the reproductive system in relation to a woman's health than in her fertility as such. The three books of the Hippocratic treatise *Diseases of Women* are a good example of this. In the first two books, infertility is discussed but as a symptom of a disease or disorder rather than as the focus of the study. It is only in the third book, which as discussed in chapter 2 is traditionally known as *On Barrenness*, that the author expresses a primary interest in the causes and cures of infertility. The author of this book makes this distinction himself in the opening paragraph of the third book stating:

περὶ μὲν τῶν γινομένων τῇσι γυναιξὶν ἐφ' ἐκάστοισι τῶν παθημάτων πρότερον εἴρηται·  
νυνὶ δὲ ἀποφανέω, δι' ἧς αἰτίας ἄφοροι γυναῖκες τὸ πάμπαν, καὶ διότι οὐ τίκτουσι πρὶν  
ἰηθέωσιν.

I have spoken above about what happens to women in each of the diseases, and now I shall explain the main causes that make them [infertile], and why they do not give birth until they are cured.

(*DW.3.213.1-3 L.8.408.1-3*; trans.Potter, 2012, p. 331)

I presume here that the author is referring to books one and two of *Diseases of Women* when he speaks of having already described what happens to women in different diseases. This is by no means a certainty, however; as I described in the introduction, the two treatises on *Diseases of Women* and the third book περὶ ἀρῶρων only became classed as a group when Littré collated and sequentially numbered them as such in the nineteenth century. However, even if the author is not referring to the other books of *Diseases of Women* I believe the point still stands. The author is distinguishing this book, in which the focus is infertility, from other discussions of female diseases elsewhere.

In other cases, infertility is mentioned but it is far from the main point of an author's discussion and sometimes seems to be something of an afterthought. In the text *Nature of Women* (7 L.7.320-322) there is a description of the problems caused by the mouth of the uterus folding under itself. The symptoms are given, including painful menstruation and intercourse, and the treatment explained. At the end of the passage, it is suggested that once the menses appear the woman

should have intercourse with her husband. The final line of the passage states ‘Generally women become infertile from this disease’ (7.13-14 L.7.322.9-10; trans.Potter, 2012, p. 203).<sup>110</sup> Although this is a disease of the reproductive system, the focus is on the painful symptoms of the disease rather than any fertility issues. Infertility may be mentioned as a result of disease but it is not mentioned as a symptom.<sup>111</sup>

One of the most important factors to consider when exploring the number of times the female reproductive system is mentioned in the Hippocratic texts is the perceived relationship between female health and the reproductive system. In the ancient medical texts, menstruation was not just a sign of fertility in a woman but was also thought to be essential to her overall health. If women were of an age where menstruation should occur and were not pregnant or breast feeding, then they should be regularly menstruating. The reason for this, as alluded to in the introduction to this thesis, is that women are envisaged as having a completely different physiology to men in both their flesh and their function (King, 1985, p. 126, cited in 1998, p. 11; cf. Dean-Jones, 1994b, p. 85). Women are not only colder than men but their flesh is described as ‘sponge-like’ by the Hippocratic authors (*DW*.1.1 L.8.12.6-22), so they retain more fluid from their diet which is then removed through menstruation. If menstruation does not regularly occur then menstrual blood is retained in the body, leading to illness and even death (e.g. *DW*.1.2 L.8.18-20). As King (2005, p. 156) states ‘the definition of women’s health is very closely and explicitly linked to women’s reproductive functions’. Therefore, for the Hippocratic doctor menstruation is much more than a reproductive function.

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<sup>110</sup> μάλιστα δὲ ἐκ ταύτης τῆς νόσου ἄφοροι γίνονται.

<sup>111</sup> There are many other examples of infertility being mentioned in accounts of diseases but not being the main focus. Examples include a description of the retention of the menses stating that καὶ κινδυνεύσει ἀποθανεῖν, ἣν δὲ καὶ περιγένηται, ἄφορος ἔσται. ‘...women run the risk of dying, and even if she would survive, she will be infertile...’ (*DW*.1.3.23-24 L.8.24.9-10; own translation). The idea that a woman may be cured but remain infertile also features in: ὥς δὲ τὰ πολλὰ ἐκ τῆς νόσου ταύτης ἐκφεύγουσι, καὶ ἄτοκοι γίνονται. ‘In most cases the person is cured but becomes infertile’ (*DW*.1.63.46 L.8.130.18; own translation). In chapter 4 I explore whether it was possible to be considered healthy and infertile.

However, scholars rarely separate the concept of menstruation for health from that of menstruation for fertility. Blundell (1995, p. 99) has argued that the Hippocratic writers' chief concern is the way in which menstruation affects reproduction and more recently Totelin (2009, p. 118; 199; 205) states that one of the main concerns of the Hippocratic gynaecological treatises is fertility. Totelin rarely differentiates between the remedies to encourage menstruation for health reasons and those that are to encourage fertility. If we are to understand these texts, I believe that it is important that we should not see remedies encouraging menstruation as automatically relating to fertility. Similarly, the prescription of intercourse for health is not always related to a desire for pregnancy. This is not to say that a woman's ability to procreate was not important to the Hippocratic authors and, as this thesis shows, there are many examples of the Hippocratic interest in fertility. However, it is important to state that the Hippocratic interest in a woman's ability to achieve pregnancy was not just for the sake of her fertility but also a sign that her body was working correctly.

This structure of this chapter is based around the different causes of infertility found in the ancient medical texts. I will first explore the association between menstrual problems and infertility and then move on to diseases of the uterus including ulcers, the wrong environment in the uterus and problems associated with the mouth of the uterus. I shall then explore the phenomenon of uterine displacement and the movement of the mouth of the uterus. In the final section, my focus will shift away from the female partner to explore male infertility.

### Menstruation and its problems

The importance of menstruation for a woman in the ancient medical texts went beyond fertility and was linked to her overall health, so many discussions of irregularities in menstruation related to conditions and diseases were not necessarily linked to fertility. As subsequent sections of this chapter will show menstrual disturbance is often a symptom of another conditions associated with infertility; for example, in the case of the irregular closure of the mouth of the uterus (e.g. *DW*.3.213 L.8.408). However, as menstrual blood was a key substance in the theories of conception, problems with menstruation and menstrual blood are also described as causes of

infertility in their own right. Menstruation was also used by the Hippocratic writers as a guide to when a woman was most likely to conceive. The best time was believed to be at the end of the menstrual period when the womb was empty of blood but the mouth of the uterus was still open to receive the male semen (*DW*.1.17 L.8.56; *Nat.Puer*.15 L.8.494; cf. Arist.*GA*.727b13-23, 23-25; *HA*.58b11-12).<sup>112</sup>

The Hippocratic authors expected menstruation to occur every month and on the same days of the month unless the woman fell into one of the categories previously stated. It was also expected to be of sufficient quantity, free flowing and in equal amounts (*Prorrh*.2.24 L.9.56). The amount of menstrual fluid lost was expected to be heavy with the amount stated as two Attic cotyls, around a pint, over two to three days (*DW*.1.6 L.8.30). This seems excessive amount by today's standard however, as Helen King (1998, p. 30) has noted it is difficult to make comparisons as it is not clear what comparison we are making. Whilst half a pint of fluid, half of which is blood, is considered the maximum today the Greeks could not differentiate between the components of menstrual fluid. King argue that the two cotyls given by the Hippocratic writers represent the total loss, rather than the blood alone, the assumption behind this figure being that the womb filled up completely each month and was expected to empty itself entirely during menstruation.<sup>113</sup>

If a woman stopped menstruating completely and retained her menstrual fluid this could not only have a direct effect on her fertility but also her health (*Gen*.4 L.7.476). In extreme cases, menstrual retention could result in death (e.g. *DW*.1.2 L.8.20; cf. Arist.*GA*.738a28-30).<sup>114</sup> The reason why menstrual retention has an effect on fertility is given by the Hippocratic author of *Diseases of*

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<sup>112</sup> In modern medicine it is believed that due to the limited life span of the sperm and egg conception is generally only possible with intercourse taking place from around five days before ovulation to one-two days after ovulation the so-called 'fertility window' (Manders et al., 2002). Clinical guidelines suggest the fertility window opens between 10-17 days after menstruation begins.

<sup>113</sup> Dean-Jones (1994b, p. 89-91; cf. King, 1998, p. 30) notes that the measurement of two cotyls is given elsewhere as the maximum amount of fluid that should be poured into the womb during cleansing (*DW*.1.78 L.8.190). Dean-Jones therefore suggests that the assumption behind this figure is that the womb is seen as completely filling up and completely emptying each month.

<sup>114</sup> As King (1998, p. 31) notes outside of *DW*, prolonged retention of the menses does not always result in death but is not considered healthy. For example a servant who had not menstruated for seven years had poor colour and a hard area with pain in her abdomen, but after becoming 'healthy' and menstruation restarted these symptoms improved (*Epid*.4.38 L.5.180; cf. *Epid*.6.8.32 L.5.356; *Epid*.5.11 L.5.210).

*Women* as ‘her vessels, being filled with blood, cannot take up the seed, and also old blood must of necessity be present in her uterus which will prevent the seed from being nourished’ (*DW*.3.213 L.8.412; trans.Potter, 2012, p. 337).<sup>115</sup>

Another problem associated with retention of menstrual blood is that if some of the fluid is left behind in the mouth of the uterus or a little inside then the woman will not become pregnant (*DW*.3.213 L.8.410). This is because as it warms and then becomes cool it forms a hardness, which can be felt through palpation, and this obstructs the seed from entering. The author also states that if it is diagnosed and treated quickly then the woman will regain her fertility, but if not she will remain infertile. In both of these cases retention of the blood effectively creates a barrier that means the female seed cannot make its way to the uterus or that the male seed cannot be received into the uterus and therefore conception is unable to occur.

The amount of menstrual blood a woman released was a key factor in both a woman’s health and fertility. In the Hippocratic text *Aphorisms*, for instance, it is stated that ‘When menstruation is too copious, diseases ensue; when it is suppressed, diseases of the womb occur’ (5.57 L.4.552; trans.Jones, 1931, p. 173).<sup>116</sup> In *Diseases of Women* (3.213 L.8.412-414) it is similarly noted that both too much menstruation and too little will lead to fertility problems.

If a woman could not conceive and her menstrual flow was less than considered usual then according to the author of *Diseases of Women* (3.213 L.8.412.17-19) it could be a sign of another disease such as a closure of the mouth of the uterus. Once this disease was cured then she would regain her fertility. However, should the woman’s menses be ‘naturally scanty’ (φύσει ὀλίγα χωρέη) then fertility will not be possible even after treatment.<sup>117</sup> The reason given for an

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<sup>115</sup> αἱ γὰρ φλέβες τοῦ αἵματος πλήρεις ἐοῦσαι τὴν γονὴν οὐ δέχονται, καὶ ἐν τῇσι μήτρῃσιν αἵματος ἐνεῖναι τι χρονίου πᾶσα μηχανή, ὃ τι ἀποκωλύει τὴν γονὴν τρέφεσθαι.

<sup>116</sup> καταμηνίων γενομένων πλειόνων, νοῦσοι συμβαίνουσι, καὶ μὴ γενομένων ἀπὸ τῆς ὑστέρης γίνονται νοῦσοι.

<sup>117</sup> See chapter 8 for a discussion on this distinction in prognoses between infertility caused by disease or occurring naturally.

insufficient menstrual flow causing infertility is said to be the same as the reason given by the author for a complete absence of menstruation, that the vessels were considered too full.<sup>118</sup>

At the other extreme, menses that were too copious were also believed to have an effect on fertility. The reasons given here are two-fold, first that the excessive menstruation will weaken the uterus to such a degree and second that even if the woman was able to take up the seed ‘...the sudden movement of much blood down to the uterus will suffocate the seed’ (*DW.2.213 L.8.414.1-3*; trans.Potter, 2012, p. 337).<sup>119</sup> Again, the author reiterates that if this is normal to the woman then she cannot be cured but if it is due to disease then fertility can be restored. Although the Hippocratic authors offer some guidance on the amount of fluid that a woman was expected to lose during menstruation they do not set an absolute limit. Instead, they take into account individual variation and as both these cases show a physician would question the woman about her menstrual habits and use this to inform his subsequent diagnosis.

Another fertility problem associated with menstruation was the health of the menstrual blood itself. In *Diseases of Women*, the following is stated:

κῆν μὴ ὑγιερὰ χωρέη τὰ καταμήνια, οἷα τῆς γυναικὸς μὴ ὑγιερῆς εὐούσης, οὐδ’ οὕτω κύσκειται· οὐ γὰρ πῆγνυται ὑπὸ τοῦ αἵματος νοσεροῦ ἐόντος, ἀλλὰ διορροῖ τὴν γονὴν τὸ αἷμα τὸ κατιὸν ἀπὸ τοῦ σώματος νοσερὸν ἐόν· διορρωθεῖσα δὲ ἡ γονὴ ἐξέρχεται ἔξω τῷ χρόνῳ ἢ ὀλίγῳ ἢ πολλῷ ξὺν ἰχθῶρι. δῆλον δὲ ἐστὶ τῷ σώματι τῆς γυναικὸς καὶ τοῖσι καταμηνίοισι· χωρήσει γὰρ τὰ καταμήνια αὐτῇ οἷα εἴρηται, ἥν τε χολώδης ἥν τε φλεγματώδης ἥν τε ὑδρωποειδῆς· ἐν τάχει δὲ μελεδανθεῖσα φορὸς γίνεται· εἰ δὲ μὴ, οὐ.

If the menses that pass are not in a healthy state – as happens when a woman herself is unhealthy – she will also not become pregnant; for no congelation occurs, due to the

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<sup>118</sup> In *DW.1.6 L.8.30.21-22* the author states that women who menstruate less than normal are ‘not concerned about bearing children’ (οὐ μνησίτοκοι). Dean-Jones (1994b, p. 201) suggests that here ‘the affective deficiency in the woman is not a lack of desire for intercourse but of the nurturing disposition that leads a woman to want to be a mother’.

<sup>119</sup> κατελθὼν τὸ αἷμα πολλὸν ἐξαπίνης ἐπὶ τὰς μήτρας τῆς γυναικὸς ἀποπνίγει τὴν γονήν.



blood being diseased, but rather the diseased blood passing down from the body turns the seed to whey, and after the seed is turned to whey it will be discharged – either sooner or later – along with serum. This is revealed both by the woman’s body itself and by her menses: for her menses appear as I have described – whether she is bilious, phlegmatic, or watery. If she is cared for at once, she will recover her fertility, but not otherwise.

(*DW*.3.213 L.8.412; trans.Potter, 2012, p. 335)

Here the unhealthy menstrual blood is effectively destroying the semen. Potter’s translation describes the seed as being turned to ‘whey’; however, the more literal translation of the verb διορώ given by the LSJ is ‘the changing of blood into serum.’ The author does not allude to what type of change he believes the semen is undergoing here. However, in *Diseases* (1.30 L.6.200) the author describes how in the case of an inflammation of the brain (phrenitis) bile in the blood causes it to be stirred up and as this happens it heats up and turns into serum (διώρρωσε), altering both its normal consistency and motion. Later in the passage the author notes that a diagnosis of diseased menses can be made if the woman is ‘bilious, phlegmatic or watery’ (χολώδης, φλεγματώδης, ὕδρωποειδής) which can be found out by examining her menses. Therefore, it is possible that the author envisages diseased menses having a similar effect on semen as bile has on blood in the case of phrenitis.

After conception occurs, menstrual blood can continue to be a sign of a problem with fertility. In the Hippocratic text *Aphorisms* (5.60 L.4.554) it is noted that if a woman menstruates during pregnancy it is impossible for the foetus to be healthy. Menstruation during pregnancy could also be considered a sign of disease. For example in *Diseases of Women* (1.25 L.8.68; cf. 1.28 L.8.72) the author states that if a woman menstruates in the first few months of pregnancy then it is a sign that the mouth of the uterus is open too widely and that the embryo will be weakened. It was believed that if this was treated then the woman could carry the child to term; however, if it was left untreated then she would miscarry. Aristotle’s theory of menstruation occurring in pregnancy is less clear. On one hand, he states that there is nothing odd about menstrual fluid continuing after conception has taken place. However, he then goes on to note that this is a morbid condition

that only occurs infrequently (*GA.727b26-27*). In *History of Animals* (582b19-21) Aristotle expands on this point, stating that in these cases the child will be weak, and will either not survive or grow up weak.

Although menstruation played an important role in both conception and development of the foetus, a lack of regular menstruation would not necessarily mean that the woman would be considered infertile, although her fertility may nevertheless be impaired. Today this may fit into the sub-fertile category. Two good examples of this come from the Hippocratic text *Epidemics*. In one case study, mentioned in chapter 1, the author describes how the wife of a leatherworker conceived despite being ‘...of rather an advanced age [and] she had not even menstruated in the most recent period’ (*Epid.2.2.17 L.5.90*; trans.Smith, 1994, p. 35).<sup>120</sup>

Another case study notes that a woman whose menses had stopped for four years, except for a small amount, and who in addition had pain in her uterus, became pregnant anyway, and although superfetation occurred, she gave birth (*Epid.5.11 L.5.210*). In these cases the lack of menstruation alongside conception occurring is noted as being unusual, but it suggests that an ancient physician would not be unduly surprised by a woman not menstruating and yet becoming pregnant. However, if neither menstruation nor pregnancy occurred then the lack of menstruation would be taken as either a symptom or a cause of the infertility. Like the Hippocratic authors Aristotle notes that women do not normally conceive if menstruation does not occur (*GA.727b13-14*; 23-25; cf. *HA.582b11-14*); however, he explains that in some cases conception does occur without menstruation. The reason given is that, in women who do not menstruate but become pregnant, only enough menstrual blood is produced for conception to occur it is not enough to be excreted in the normal manner. Conversely, regular menstruation would not have necessarily been a sign that all was well. In *Diseases of Women* (3.213 L.8.410) the author notes that those with a longstanding ulcer will continue to menstruate normally.

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<sup>120</sup> πολλά δὲ ἔτεα ἤδη εἶχε, τὰ ὕστατα οὐδ’ ἐπιμήνια ἦει.

Fertility problems associated with menstruation are not usually as a direct result of the menstrual problems themselves but are usually a symptom of another problem with the body. In some cases such as retention of the menses, it is a sign that there is something blocking the menses whether in the uterus or the passages of the rest of the body. Even when menstrual blood appears to be a direct cause, such as in the case of excessive menstruation or diseased menstrual blood affecting the semen, the menstrual blood is normally only acting this way due to a problem elsewhere in the body.

### Diseases of the uterus

One of the most common diseases that are mentioned by the Hippocratic authors as affecting fertility is that of ulcers developing in the uterus.<sup>121</sup> The causes are numerous: ulcers occurring after a miscarriage (*DW*.1.66 L.8.136), childbirth (*DW*.1.67 L.8.140) or a purification of the lochia flow (*DW*.1.36 L.8.86). They can also result from a bad menstrual flux (*Nat.Mul*.10 L.8.326) or through the use of harsh pessaries (*DW*.3.230 L.8.438). The uterine ulcer alone will prevent pregnancy occurring whilst it is present (*DW*.3.213 L.8.410; *DW*.1.9 L.8.38), but it is the damage the ulcer does to the lining of the uterus which can lead to the woman becoming completely infertile.

In the third book of the Hippocratic text *Diseases of Women* (3.213 L.8.410) it is explained that the ulcer can create large smooth scars on the uterus which leave the uterus slippery and smooth, and therefore when the seed is received into the uterus it will not be able to attach and instead will be expelled. To diagnose scarring from ulcers in the uterus the author suggests either a physical examination of the woman or confirmation by the patient herself that she has suffered with this condition in the past. In the cases of scarring of the uterus due to ulcers, we are told that although the menses may flow normally the woman will be unlikely to conceive in the future. The author of the first book of *Diseases of Women* (1.21 L.8.60) suggests that in cases where the womb is smooth either naturally or due to ulcers the woman can conceive but may miscarry at three or four

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<sup>121</sup> The Greek word used for ulcer is ἔλκος in more general terms; this word can be used as meaning 'a wound'. In relation to the uterus ἔλκος is most typically translated as 'ulcer' although Hanson (1975, p. 574) translates this as 'laceration'.

months. The reason he gives is that, as the membrane surrounding the foetus is not secured firmly to the uterine wall, when the child begins to move it becomes detached and therefore the woman suffers a miscarriage.

If an ulcer is developed then it is important that it be treated quickly, for if it does not heal quickly it will become unclean, and the woman will have a ‘...sickly smell, and sometimes an evil-smelling flux passes out of her vagina. As long as the ulcer is present, she will not become pregnant because her uterus will not take up the seed’ (*DW*.3.213 L.8.410; trans.Potter, 2012, p.333).<sup>122</sup> At the end of this passage, it is stated that after receiving care the woman may become fertile but that there is only a slight chance. Elsewhere the Hippocratic writers suggest that if large ulcers are present then the woman will remain infertile even if she recovers from her illness (e.g. *DW*.1.2 L.8.20; *DW*.1.3 L.8.24; *DW*.1.8 L.8.38; *DW*.1.67 L.8.140). Sometimes the ulcers can even lead to her death (e.g. *DW*.1.8 L.8.38; *DW*.1.36 L.8.86).

Another condition of the uterus mentioned in the Hippocratic texts as causing infertility is pus in the uterus. This develops owing to growths in the uterus and is recognisable through the woman not conceiving, although her uterus seems to receive the seed, and passing thick urine (*DW*.3.222 L.8.428). This condition is associated with women who have previously been pregnant but can no longer conceive; what today would be described as ‘secondary’ infertility. Whereas ulcers affect the lining of the uterus, the pus is described as having a direct effect on the semen. The author of *Diseases of Women* describes how, ‘...the pus weakens the seed, so that it does not arrive in the uterus, since the pus melts and decomposes it’ (3.222 L.8.428; trans.Potter, 2012, p. 355).<sup>123</sup>

In addition to problems with the interior of the uterus, there are also problems associated with the mouth of the uterus. As stated in the introduction to this thesis it is generally believed that in Hippocratic medicine the uterus was thought to be similar to a jar, the entrance to which needed

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<sup>122</sup> καὶ ὄζει πονηρὸν ἢ γυνή, καὶ ἔστιν ὅτε ἰχὼρ ῥέει αὐτῇ ἐκ τοῦ αἰδοίου κάκοδος, καὶ μέχρι ἔχει τὸ ἔλκος, οὐ λαμβάνει ἐν γαστρὶ· οὐ γὰρ συλλαμβάνουσιν αἱ μήτραι τὴν γονήν.

<sup>123</sup> τὸ γὰρ πῦον ἀμαυροῖ, ὥστε μὴ προσφέρεσθαι· τέθηκε γὰρ τὸ πῦον καὶ σῆπει τὴν γονήν.

to be open to allow the menses to flow out and semen to enter. The uterus itself has been described using different words by scholars; most commonly it is now referred to as a 'jar' (King, 1989, p. 23; Hanson, 2007, p. 48), but also a 'jug' (Hanson, 1990, p. 317), 'wineskin' (Dean-Jones, 1994b, p. 65),<sup>124</sup> 'wallet' or 'purse' with draw-string (Sissa, 2013). Generally, modern scholarship agrees that the ancient medical writers believed the womb to be a vessel with a mouth (τὸ στόμα τῆς μήτρης) and a neck (αὐχλὴν). The vagina too was considered to have a mouth (τὸ στόμα τοῦ αἰδοίου) which needed to be aligned to that of the uterus in order to provide a route for menstrual blood to exit and semen to be received (King, 1998, p. 35).

However, the way in which we should view the Hippocratic understanding of the opening and closing of the mouth of the womb has been debated by modern scholars. As already explained, in the Hippocratic theory of conception the mouth of the uterus is described as closing and opening as an automated response to the introduction of the semen. If we envisage the uterus as an upside down jar, then questions are raised regarding how the menstrual blood is stored in the uterus before it is released during menstruation, and how the semen is retained after intercourse. To do this it would need a lid or a stopper. The idea of the uterus having a lid or stopper has been put forward by Hanson (1990, p. 330) who has stated that the 'image of a wallet with purse-strings differs from the image of an upside-down jug: the latter requires a lid or stopper, to prevent its contents from exiting'. However, Sissa (2013, p. 94) has noted 'by choosing to reconstruct the Hippocratic uterus, via the analogy of an inverted jug, we rule out a different analogy: that of a container that is capable of opening and closing, all by itself.' However, this is not necessarily the case. One of the key differences between the argument put forward by Hanson and that of Sissa is whether the Hippocratic authors believed in the existence of the hymen. Sissa has repeatedly denied that the Hippocratic authors knew about the hymen (Sissa, 1990a, 1990b, 2013). On the other hand, Hanson (1990, p. 330) has argued that the writer of *Diseases of Young Girls* at least seems to believe that the uterus was a sealed off space which was opened during the first

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<sup>124</sup> Dean-Jones chooses this term as she notes that in *DW*.1.61 L.8.124.15-21 and *DW*.2.170 l.8.350.16-17 a distended womb is described as a swollen wineskin (ἄσκός). She further notes that the way in which the Hippocratic writers believed the womb to stretch during pregnancy fits the idea of a wineskin more than that of a jar.

intercourse. Although Hanson does not seem to be arguing that the mouth of the uterus did not also open and close by itself in reaction to menstrual blood or semen.<sup>125</sup> Whether we describe the uterus as a jar, a wallet or a wineskin the basic fact remains that the ancient Greeks envisaged the uterus as a container that had an opening that could open and close.

For conception to occur successfully the womb needed to be sealed after receiving the semen and would remain closed until the latter stages of pregnancy (*Aph.5.51* L.4.550; cf. *Gen.5* L.7.476; *Arist.GA.773b18-19*). If the opening to the uterus is closed more than it should be, or is completely closed, it will not be able to receive the semen (*DW.3.213* L.8.408), but similarly if it is too wide then the semen will not remain in the uterus (*DW.3.213* L.8.410). If the uterus is open too widely then this can be diagnosed through a physical examination with one symptom being a heavy menstrual flow over a few days. If either of these conditions were present then the seed of the man would be observed to run out of the woman straight after intercourse. The Hippocratic texts suggest that this condition can occur either because of disease or naturally. In the former case treatment will work but in the latter it is incurable (*DW.3.213* L.8.412). In addition to closure of the mouth of the uterus, it is mentioned that if the woman is observed not to receive the semen into the uterus a membrane may have formed (*DW.3.223* L.8.432).<sup>126</sup> Aristotle also describes how if the opening to the uterus is too smooth or too thick the seed will slip out, and he believes that it is better for it to be rough to the touch and thin for conception to occur (*HA.583a15-17*).

Another condition that is mentioned as affecting fertility is the ‘withering’ of the uterus. In this case, the mouth of the uterus will also become rough and closed up, and there will be additional symptoms such as a lack of menstruation, fever and pain in the lower abdomen. This condition is described as occurring when ‘something inside the woman decays’ or as a result of giving birth (*DW.3.228* L.8.436).

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<sup>125</sup> The arguments surrounding the presence of the hymen are both long and complex. Sissa (2013) offers the most recent account of the various arguments put forward (cf. Hanson, 2007, 1990; Sissa, 1990a, 1990b).

<sup>126</sup> Although it is possible to see this membrane as a possibility of a hymen as Sissa (2013, p. 93) notes there is nowhere in the Hippocratic texts where a membrane of this kind is not seen as problematic (e.g. *Nat.Mul.67* L.7.402; *DW.2.120* L.8.262).

The diseases of the uterus outlined affect the woman's fertility in two ways. Either the semen cannot be retained due to the uterus being too 'slippery' in the case of ulcers or the mouth of the uterus being too open or in the case of the uterine mouth, not opening widely enough so that the seed cannot enter the uterus in the first place.

#### Condition and environment of the uterus

For a successful pregnancy, the uterus must not be only free of disease but must also offer the correct type of environment for conception to occur and provide a suitable place for the growing foetus. The Hippocratic text *Aphorisms* offers the following description of the type of womb that offers the best environment for conception to occur:

όκόσαι ψυχράς καὶ πυκνὰς τὰς μήτρας ἔχουσιν, οὐ κυῖσκουσιν· καὶ όκόσαι καθύγρους ἔχουσι τὰς μήτρας, οὐ κυῖσκουσιν, ἀποσβέννυται γὰρ ό γόνος· καὶ όκόσαι ξηρὰς μᾶλλον καὶ περικαέας, ένδείη γὰρ τῆς τροφῆς φθείρεται τό σπέρμα· όκόσαι δέ έξ άμφοτέρων τήν κρᾶσιν ἔχουσι ξύμμετρον, αἱ τοιαῦται έπίτεκνοι γίνονται.

Women do not conceive who have the womb dense and cold; those who have the womb watery do not conceive, for the seed is drowned; those who have the womb over-dry and very hot do not conceive, for the seed perishes through lack of nourishment. But those whose temperament is a just blend of the two extremes prove able to conceive.

(*Aph.5.62 L.4.554*; trans. Jones, 1931, p. 175)

In this description, the womb must have a balance between, wetness and dryness, and heat and cold, for the seed to survive. This fits into the wider framework of the Hippocratics who emphasise the importance of balance of fluids in the body for health. In the text *On Generation* (4 L.7.476) the author describes how a lack of moisture in the uterus causes it to contract, which can lead to disease, and recommends intercourse as the seed can provide moisture to the womb.

A further condition described as affecting fertility is if the woman has a stone in her uterus. Here the symptom is that her husband's seed is expelled from the uterus three days after intercourse (DW.3.244 L.8.458). The author of *Diseases of Women* explains how to remove the stone<sup>127</sup> and suggests that once it is removed the woman should have intercourse with her husband, but fails to mention whether the treatment will successfully restore the woman's fertility.

Even if a woman's uterus is fit for conception, it must then be able to carry the foetus to full term. One of the conditions mentioned by the Hippocratic authors is the inability for the uterus to stretch with the growth of the foetus. In the text *Superfetation* it is stated that:

γυνή ἥτις κυῖσκειται μέν, διαφθείρει δὲ δίμηνα τὰ παιδιά ἀκριβῶς ἐς τὸν αὐτὸν χρόνον καὶ μήτε πρότερον μήτε ὕστερον, καὶ τοῦτο πάθῃ δις ἢ τρις κατὰ ταῦτα καὶ πλεονάκις, ἥν τε τρίμηνα ἥν τε τετράμηνα ἥν τε πλείονα χρόνον γεγονότα διαφθείρῃ κατὰ τὸν αὐτὸν τρόπον τοῦτον, ταύτης αἱ μήτραι οὐκ ἐπιδιδόασιν ἐπὶ τὸ μέζον, τοῦ παιδίου αὐξανομένου καὶ ὑπερβάλλοντος [τοῦ] ἐκ τοῦ διμήνου ἢ τριμήνου ἢ ὀπηλίκου ἂν ποτε ᾗ· ἀλλὰ τὸ μὲν αὐξάνεται, αἱ δὲ μήτραι οὐκέτι εἰσὶν ἱκαναί, ἀλλὰ κατὰ τοῦτο διαφθείρεται ἐς τὸν αὐτὸν χρόνον.

If a woman becomes pregnant, but her fetuses are always aborted at the same time after two months, neither earlier nor later, and she experiences this two or three or even many times in just the same way, or if the conceptus is aborted this same way after three or four months or even a longer time, then her uterus is not expanding enough, while the fetus increases and goes beyond it after these two or three months, or whenever it is. As the fetus increases, the uterus is no longer large enough to contain it, so that abortion then regularly occurs for this reason at the same time.

(*Superf.*27 L.8.490-492; trans.Potter, 2010, p. 335–337; cf. DW.3.238 L.8.452)

In this example, the diagnosis of a woman with a uterus unable to expand to the required size is only made after at least two miscarriages at the same stage of pregnancy. In the text *On Generation* (9 L.7.482) the author describes how if a weak child is born when the woman has

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<sup>127</sup> The procedure to remove the stone involves anointing the uterus with rose unguent and the using a spatula to open the uterus and remove the stone (DW.3.244 L.8.458).



previously had healthy children then it is because the uterus has gaped open letting some of the seed or menstrual blood run out. However, he further notes that if all children are born weak, this is an indication that the uterus is too narrow and the foetus has not had the room to grow. The author uses the analogy of a cucumber plant describing how if a cucumber which has finished blooming, is placed into a cup the cucumber will grow and develop in the shape of the cup for it will strive to attain the volume of the cup. The writer states that similarly the more room the child has to grow in the womb the bigger the child will grow (*Gen.9 L.7.482*).

When it is the environment of the uterus that creates a barrier to reproduction the uterus can receive and even retain the seed, at least initially, unlike the cases described in the last section where the seed is rejected immediately. However, the condition of the uterus has a detrimental effect on the semen that is either destroyed or ejected after a few days. In the case of the uterus being too narrow, conception does occur but a miscarriage is likely.

#### Movement of the mouth of the uterus

The ability of the uterus to move from its natural position in the body is a condition that is frequently described in the ancient medical texts. The movement can be either restricted to the mouth of the uterus or involve the entire uterus moving out of position. Of all the discussions of uterine displacement in the Hippocratic texts, the main type of displacement linked to fertility problems is when the mouth of the uterus (τὸ στόμα τῶν μητρέων)<sup>128</sup> moves from its central position in the body. This is indeed the very first cause of infertility described in book 3 of *Diseases of Women*. The author states:

ἦν στραφῆ τὸ στόμα τῶν μητρέων πάμπαν ἀπὸ τοῦ αἰδοίου, οὐ κύσκειται· οὐ γὰρ δέχονται αἱ μήτραι τὴν γονὴν, ἀλλ' ἐξω αὐτίκα ἔρχεται. γίνεται δὲ τοῦτο καὶ ἦν ὀλίγον παραστραφῆ τὸ στόμα τῶν μητρέων ἀπὸ τοῦ αἰδοίου παρὰ φύσιν· καὶ ἦν μεμύκη τὸ στόμα τῶν μητρέων

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<sup>128</sup> This phrase is occasionally translated as cervix (e.g. Hanson, 1975, p. 567–568). However, I have chosen to use the more literal translation of the mouth of the uterus.

πάμπαν, οὐδ' οὕτω δέχονται, οὐδ' ἦν ἀρμῷ μεμύκη μᾶλλον ἢ δεῖ. δῆλον δὲ τούτων ἕκαστόν ἐστι τῶν εἰρημένων· ἦν μὲν γὰρ ἀπεστραμμένον ἢ πάμπαν ἢ μεμυκός, τὰ καταμήνια οὐκ ἔρχεται τὸ παράπαν, ἢ ἔρχεται βιαίως ξὺν νούσῳ, ἦν βιάσεται τὸ αἷμα τὰς μήτρας στραφῆναι κατ' ἰθέα. κῆν ἀποκαθαρθῇ ἡ γυνή, ἔστιν ὅτε αὐτὶς ἀποστρέφεται τὸ στόμα τῶν μητρέων ἀπὸ τοῦ αἰδοίου· ἦν δὲ ὀλίγον παρακεκλιμένον <ῆ> ἢ ἀρμῷ μεμύκη, χωρέει μὲν τὰ καταμήνια, χωρέει δὲ βιαίως καὶ κατ' ὀλίγον ἐπὶ πολλὰς ἡμέρας. ταῦτα δὲ πάντα δῆλα γίνεται, εἰ οὕτως ἔχει, ψηλαφώσῃ γυναικί, καὶ ἦν τούτων τι ἦ, μελεδανθεῖσα ἡ γυνή φορὸς γίνεται· ἔστι δὲ καὶ ὅτε ἀντομάτη.

If the mouth of a woman's uterus turns (στραφῆ) completely away from her vagina, she will not become pregnant since her uterus does not receive the seed, which immediately runs out of her. This also happens if the mouth of the uterus turns (παραστραφῆ) only a little abnormally away from the vagina. Also, if the mouth of the uterus is completely closed, in this state too it will not receive anything, nor if it is closed more than it should be but still has a gap. Each of these things described becomes obvious, for if the mouth is completely averted (ἀνεστραμμένον) or closed, the menses will fail to arrive at all; or if blood forces the uterus to straighten out, they will arrive with difficulty and accompanied by disease. If such a woman is cleaned out, sometimes the mouth of her uterus turns away (ἀποστρέφεται) from her vagina again. If the mouth is deviated (παρακεκλιμένον), or is closed but still has a gap, the menses will flow, but with difficulty and a little at a time over many days. All these causes become evident, if the case is such, when the woman is palpated and if any of them is present, she will regain her fecundity on being treated, or sometimes even spontaneously.

(*DW.3.213 L.8.408*; trans.Potter, 2012, p. 331–333)

In this passage the mouth of the womb is described as 'turning away' from the vagina, causing the blockage of the passage of the male seed into the uterus, and is comparable with the closing up of the mouth of the uterus which will cause similar problems.<sup>129</sup> The physician will be able to

<sup>129</sup> cf. *DW.1.13 L.8.50-52*; *DW.3.213 L.8.412-414*; *DW.3.217 L.8.418* for examples of the displacement and the closure of the mouth of the uterus being described together.

diagnose this condition through a combination of suppression, either complete or partial, of the menses and through palpation. In this passage, the prognosis is good and the infertility is temporary with fertility being fully restored on treatment or even spontaneously.

This passage from *Diseases of Women* offers a description of displacement of the mouth of the uterus that is typical across the Hippocratic Corpus. The idea that the movement of the uterine mouth causes infertility because the passage of the seed is being blocked is repeated throughout descriptions of this condition (*DW*.1.13 L.8.50; *DW*.1.10 L.8.42; *DW*.2.132 L.8.280; *DW*.3.213 L.8.414; *DW*.3.217 L.8.418). Similarly, the movement of the mouth of the uterus being linked with menstrual problems, because their passage out of the body is blocked, is also frequently mentioned as both a resulting condition and as an indicator for diagnosis (*DW*.3.213 L.8.414; *DW*.3.217 L.8.418; *DW*.1.2 L.8.14).<sup>130</sup> The use of palpation in diagnosis is less frequently mentioned, only being described in one other passage in *Diseases of Women* (3.230 L.8.338). In most cases of displacement of the mouth of the uterus, where a prognosis of a woman's future fertility is mentioned, the prognosis is normally positive and on treatment the woman would be expected to be fertile once more (*DW*.3.213 L.8.414; *DW*.2.132 L.8.280).<sup>131</sup>

The treatment prescribed for displacement of the mouth of the uterus is not mentioned in this passage but is discussed elsewhere in the corpus. Treatment is generally a mixture of fumigations and physical manipulation to move the mouth back into the correct position (*DW*.1.13 L.8.52; *DW*.2.132 L.8.280). *Diseases of Women* 3.217 (L.8.418) offers the most detailed description of treatment for this condition and consists of a combination of a vapour bath, either to the whole of the body or directly to the uterus, and the use of a tin spatula or thin lead spatula to manipulate the mouth back into place. The patient should also drink a pleasant, sweet, fragrant white wine, with pinewood, celery seeds, Ethiopian cumin and frankincense, and eat well-steamed meat of

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<sup>130</sup> In *DW*.3.217 L.8.418 the author notes that menstrual blood may still find its way out of the body in cases of displacement of the mouth of the uterus because it is 'natural and right' that it does. The author also notes that the seed will still not be admitted due to the damage to the mouth of the uterus.

<sup>131</sup> In *DW*.1.2 L.8.18-20 the prognosis for a woman whose mouth remains displaced is described; the resultant retention of the menses leads to a variety of diseases and ultimately the woman's death if this problem is not rectified.

puppy with octopus boiled in very sweet wine and boiled cabbage. The use of fragranced food and drink fits into the wider therapies for the displacement of the uterus.<sup>132</sup>

Something, which is not made clear in the passage cited, is the manner or direction in which the Hippocratic author believes the mouth to be turning here. In the passage, several terms are used to describe the movement of the uterus; στραφῆ, παραστραφῆ, ἀνεστραμμένον, ἀποστρέφεται and παρακεκλιμένον are all used to describe the movement of the mouth, and all can be translated as turning away, diverting or in the case of παρακεκλιμένον bending or turning aside. It is not made clear in which direction within the body the mouth is turning simply that it is moving away from the vagina.<sup>133</sup> Nor is it stated whether the movement is one in which the entire uterus is changing position, or whether the uterus is turning whilst remaining in position. However, the use of the word στραφῆ, from στρέφω, in the first line of the passage is suggestive. στρέφω is generally simply translated as turning away, but the LSJ also states it can mean turning on an axis similar to a potter's wheel. I believe this is how we should understand what the Hippocratic author envisages the uterus to be doing. In most cases of displacement of the mouth of the uterus, the uterus remains in a central position in the body but is turning on an axis meaning the mouth is moving away from its downward position pointing in the direction of the vagina.

Although it is not clear in the passage cited, the Hippocratics thought that the mouth of the uterus could move in several directions away from the vagina. The mouth is described as turning towards either hip (e.g. *DW.2.132* L.8.280; *DW.3.230* L.8.438), in *Diseases of Women* 1.13 (L.8.50) the mouth of the uterus is described as, ἀνεστραμμένον ἐστὶ καὶ προσπεπωκὸς πρὸς τὸ ἰσχίον, turning aside and falling upon or striking against the hip. The mouth of the uterus is also described as turning towards the rectum (*DW.3.213* L.8.414 ἐκτέτραπται; *DW.3.217* L.8.418 κεκύφη). The movement of the uterine mouth towards the rectum could then result in the menstrual blood making its way out of the body through this passage rather than through the vagina.

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<sup>132</sup> Further discussion of the symbolic nature of these foods and the use of food and drink in treatment more generally can be found in chapter 4.

<sup>133</sup> cf. *DW.1.10* L.8.42

Whilst the initial cause of the movement of the uterine mouth is rarely mentioned within the Hippocratic texts, there are however some exceptions. In *Diseases of Women*, the author, after explaining that displacement of the uterus happens more often in women whose wombs are light and empty, notes that ‘There are occasions when after the womb is displaced, the mouth happens to be turned too far, such as in a case where the [mouth of the uterus]<sup>134</sup> lies farther into the vagina’ (*DW*.1.2 L.8.16; trans. Hanson, 1975, p. 573).<sup>135</sup> Here the movement of the mouth of the uterus seems to be linked both to the mouth of the uterus being positioned further down the vagina than normal and the displacement of the uterus as a whole, although it should be noted that the displacement of the mouth of the uterus and of the uterus itself are treated as two separate conditions.

In another passage, the movement of the uterine mouth is linked to the movement of the entire uterus towards the hip. In *Diseases of Women* 2.133 (L.8.280-282), the author explains that if the uterus moves towards the hip and remains there, the woman will suffer dryness and then out of necessity, the mouth of the uterus will also turn and move upward. The only passage that clearly explains why the mouth of the uterus has moved in relation to a prolapse of the uterine mouth occurs in *Diseases of Women* where we are informed that:

γίνεται δὲ τοῦτο μᾶλλον τῇσιν ἀτόκοις, μάλιστα δὲ γίνεται ἐκ ταλαιπωρίας, ἐπὶν ταλαιπωρήσῃ ἡ γυνή, καὶ αἱ μήτραι θερμανθῶσι καὶ ιδρώσωσιν, ἐκτρέπεται τὸ στόμα αὐτέων διὰ τοῦ αὐχένος, ἅτε ἐν ὑγροτέρῳ καὶ ὀλισθηροτέρῳ καὶ θερμότερῳ χωρίῳ γενόμενον ἢ ἐν τῷ πρὶν χρόνῳ· καὶ ἐπὶν τοῦτο γένηται, θύουσιν ἔξω πρὸς τὸ ψῦχος, καὶ σφέων τὸ στόμα ἔρχεται ἔξω ἐκτραπέν.

[Displacement] happens more frequently to women [who have not yet given birth]<sup>136</sup>, especially after hard work. When a woman works hard and her uterus heats up and sweats, her uterine mouth turns out through the vagina, since it was in a wetter, more slippery,

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<sup>134</sup> See n.128.

<sup>135</sup> καὶ ἔστιν ὅτε στρεφομένων σφέων τυγχάνει τὸ στόμα πρόσω παραστραφέν, ἅτε τοῦ αὐχένος πρόσω τοῦ αἰδοίου κειμένου.

<sup>136</sup> Hanson translates ἀτόκοις as barren. However, as discussed in chapter 2 ἄτοκος can be used either to mean infertile or to state that a woman has not yet borne a child.

and hotter place than previously. When this happens, the womb rushes toward the cold and its turned mouth moves towards the outside.

(DW.2.145 L.8.320.2-7; trans.Hanson, 1991, p. 83)

In this passage, the cause of the prolapse of the mouth of the uterus is given as the woman working hard causing her uterus to heat; in response to this heat the uterus is drawn to a cooler place, which in this case is through the vagina. The passage is made easier due to the heat making her vagina slippery and wetter than normal. This description of the uterus responding to a change in temperature is similar to those given in the wider theory of uterine displacement, and in fact, in this case it is the entire uterus moving downwards which causes the mouth of the uterus to prolapse. In this case of a prolapse of the mouth of the uterus, we are not informed of the effect on fertility. However, in *Diseases of Women*, the effect of the prolapse of the uterine mouth is described:

καὶ ἢν τὸ στόμα τῶν μητρῶων ἐκπέσῃ τοῦ αἰδοίου, οὐδ' οὕτω λαμβάνει ἐν γαστρὶ· τό τε γὰρ στόμα σκληρὸν γίνεται, καὶ οὐ δέχεται τὴν γονὴν, καὶ οἰδέει, καὶ ταύτῃ ἄφορος γίνεται τὸ πάμπαν· δῆλον δὲ τὸ πάθημα τοῦτο δι' ὃ τι γίνεται.

If the mouth of a woman's uterus prolapses out of the vagina, in this case too she does not become pregnant, since the (sc. uterine) mouth becomes hardened and does not admit the seed, and then it swells up making the woman completely [infertile]. This condition is revealed by what happens.

(DW.3.213 L.8.414; trans.Potter, 2012, p. 337)

Here the cause of the infertility is not directly related to the prolapse but is ascribed to the hardening of the mouth after the prolapse has occurred. The phrase ταύτῃ ἄφορος γίνεται τὸ πάμπαν, 'making the woman completely infertile', makes the prolapse of the mouth of the uterus the only condition in the range of displacements of the uterine mouth to result in permanent infertility.

In the Hippocratic texts, the mouth of the uterus could thus move in any direction available to it, either sideways towards the hips, back towards the rectum or downwards in the case of prolapses. The movement of the uterus is heavily associated with disruptions in fertility although unlike in other causes of infertility, such as ulcers on the uterus, the woman was expected to regain her fertility once the mouth returned to its natural position, so long as the displacement was the only cause of her fertility problems.

#### Uterine displacement and the 'wandering womb' phenomenon

The consequences of uterine displacement described by the ancient authors were often dramatic, particularly in the Hippocratic Corpus where in extreme cases the result was the death of the woman, either due to retention of the menses (e.g. *DW*.1.2 L.8.14-22) or suffocation (e.g. *DW*.1.7 L.8.34). In regard to uterine displacement there are four main areas to be discussed these are: the different ways in which the uterus was thought to move; the amount of movement it can undertake; the conditions associated with these movements; and the effect of these movements on fertility.<sup>137</sup>

The way in which the Hippocratic authors viewed the movement of the womb through the body and how far the womb could move has been debated by modern scholars. This is particularly the case with regard to how far through the body the Hippocratics thought the uterus was able to move. To begin explaining this problem we need to move outside the medical texts and explore a description of uterine displacement given by Plato in *Timaeus* (91.c-d). Plato describes the uterus as a living creature (ζῷον) which has a desire to bear children. If this desire is not fulfilled then it will wander through the body, causing difficulty breathing and all manner of disorders, and will only return to its proper place once this need is satisfied.<sup>138</sup> Although not a medical text,

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<sup>137</sup> The ideas surrounding uterine displacement, in both the ancient texts and modern interpretations, are wide-ranging and hugely complex. What I offer here is a description of the key points made by both the ancient authors and modern scholars. For detailed descriptions see (King, 1998 (especially chapter 11); Adair, 1996; Dean-Jones, 1994; Hanson, 1991).

<sup>138</sup> Adair (1996) argues that we should not take Plato's description of the womb as an animal literally and in fact Plato is referring to sexual desire roaming through the body looking to be satisfied rather than the womb itself. King (1998, p. 223) suggests that we need to read the description of the uterus as an animal in the wider context of *Timaeus* where such analogies are common.

Plato's description of the uterus as an animal wandering around the body has become merged in scholars' eyes with the Hippocratic authors' understanding of uterine displacement and is often used by modern scholars alongside descriptions of uterine displacement in the Hippocratic Corpus.<sup>139</sup> King (1998, p. 222) has suggested that because Plato was writing in a similar time period to much of the Hippocratic Corpus, scholars have simply combined the theories given by each together.

But did the Hippocratic authors really view the womb as an animal roaming around the body? Both Soranus (*Gyn.*3.29) and Galen (*De.loc.aff.*6.5) directly dispute the idea that the uterus moves through the body like an animal, but note that others did view the uterus in this way.<sup>140</sup> However, as I shall show in this chapter, I do not believe that the Hippocratic theories on uterine displacement should be read as the Hippocratics envisaging the uterus as either behaving like an animal or wandering aimlessly around the body. The Hippocratic theories of uterine displacement are, as King (1998, p. 36) suggests, based on a 'central tenet of medical theory and practice', where the uterus is largely responding to a particular need, that for moisture, and once it receives this it will generally return to its original position in the body. Hanson (1991, p. 83) also notes that the Hippocratic descriptions of uterine displacement do not necessarily presuppose the idea of the uterus as living, animate being as put forward in *Timaeus* (cf. King, 1998, p. 224).

The underlying cause of uterine displacement, according to the Hippocratic Corpus, is the uterus being empty and light, with the cause of this emptiness given either as a lack of either menstrual

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<sup>139</sup> For example Faraone (2011) who has a heading of *The wandering womb from Plato to the medical writers of the Roman Empire*, in which he describes uterine displacement in the different medical texts with Plato being the only non-medical source of information. Similarly, Hanson (1991, p. 81–82) uses Plato as the first example of a description of uterine displacement.

<sup>140</sup> Both Soranus and Galen believed that ligaments attached to the womb were involved in uterine displacement. Soranus explains that inflammation of these ligaments causes the uterus to be drawn upwards whereas when they are too relaxed it results in a prolapse (*Sor.Gyn.*1.3.8). This explanation fits into the wider theory of the Methodists that constriction and relaxation of specific parts of the body leads to disease. However, the ligaments which they describe were only discovered by Herophilos of Chalcedon in the third century BC through dissection (Von Staden, 1989 fr. 114). As they were discovered after the main part of the corpus was written, they play no part in the Hippocratic theory. However, Aristotle surmised that the human uterus was attached by tendons as observed in other animals (*GA.*720a12–14) showing that the concept of the uterus being anchored in place was not completely unknown in the period when the majority of the Hippocratic Corpus was written.



blood or of intercourse and pregnancy.<sup>141</sup> Therefore women who are older, who have been widows for a long time and also infertile women are all considered particularly vulnerable to this condition (*DW*.1.7 L.8.32; *DW*.2.127 L.8.272; *DW*.2.137 L.8.308; *DW*.2.145 L.8.320). It is not just that the uteri of these women are lighter but also that they lack moisture. This moisture would usually be provided by both menstrual blood and male seed received into the uterus through intercourse. The Hippocratic authors surmised that this lack of moisture caused the uterus to seek out the moisture elsewhere in the body and it was particularly attached to moist organs such as the liver (e.g. *DW*.1.7 L.8.32).

If a woman's uterus was empty and light, almost any type of exertion was thought to trigger a displacement of the uterus. In *Diseases of Women* 2.138 (L.8.310-312) the author states that:

ἅπαντα δὲ πρόφασιν ἱκανὴ τὰς ὑστέρας παροτρῦναι, ἣν ἔχωσί τι φλαῦρον· καὶ γὰρ ἀπὸ  
ρίγματος τῶν ποδῶν καὶ ὀσφύος, καὶ ἀπὸ τοῦ ὀρχέεσθαι καὶ πτίσαι καὶ κεῖσθαι καὶ δραμεῖν  
πρὸς ἄναντες χωρίον καὶ πρὸς κάταντες, καὶ ἀπ' ἄλλων.

Every excuse is sufficient to dislodge the uterus, if it is in bad condition – from a chill of the feet or loins, from dancing, winnowing grain, chopping wood, running up and down steep inclines, and from other things.

(trans.Hanson, 1991, p. 82)

Any type of over-exertion, including these, can trigger uterine displacement (cf. *DW*.1.7 L.8.32; *DW*.3.248 L.8.460). There are other causes, too, with one passage describing a postpartum prolapse as occurring due to a forceful sneeze (*DW*.2.153 L.8.328).<sup>142</sup> The uterus is described by

<sup>141</sup> There is only one example of uterine displacement occurring in pregnancy, in *DW*.1.32 (L.8.76) where the foetus, not the uterus, is said to move upwards in search of moisture resulting in suffocation (Hanson, 1991, p. 83).

<sup>142</sup> Sneezing was also used in therapy for instance *Epid*.2.5.25 L.5.132 suggests that sneezing helps with the removal of the after birth. Similarly, *Aph*.5.35 L.4.544 says a sneeze is helpful in cases of hysteria or a difficult labour (see King, 1998, p. 207-208 for a discussion of sneezing as therapy).

the Hippocratic authors as being able to move in several directions within the body. Depending on the direction, uterine displacement could cause different symptoms and diseases. The uterus could also move towards the bladder, causing strangury (*DW.1.7* L.8.34; *DW.2.128* L.8.274; cf. *DW.2.137* L.8.308). In *Diseases of Women* 1.7 (L.8.34) the author says that no other complaint will be present in this case and the woman will recover quickly on treatment.

The uterus is also described as moving towards the lower back producing pain or tilting back towards the rectum causing the woman to feel the need to defecate (*DW.2.128* L.8.274). It was also thought to be able to move sideways towards the hip (*DW.1.7* L.8.34; *DW.2.132* L.8.280; *DW.2.134* L.8.302; *DW.2.135* L.8.306). This type of movement is often described as causing pain and is linked to the movement of the mouth of the uterus resulting in menstrual problems.<sup>143</sup>

The uterus can also move downwards towards the legs and feet, resulting in the woman having pain in the legs and thighs (*Nat.Mul.49* L.7.392), or as we have seen could prolapse through the vagina, either partially or fully (*DW.2.153* L.8.328; *DW.3.213* L.8.414; *DW.3.248* L.8.460). In *On the Nature of Woman* the author describes a full prolapse of the uterus, stating:

ἤν δὲ παντάπασιν ἐκ τῶν αἰδοίων ἐκπέσωσιν, ἐκκρίμνεται ὥσπερ ὄσχη, καὶ ὀδύνη λαμβάνει τὴν νειαίραν γαστέρα καὶ τὰς ἰξύας, καὶ ὁκόταν ὁ πόνος ἐγγένηται, οὐ θέλουσιν ἐς χώραν ἰέναι.

If the uterus descends completely out of the genitals, it hangs like a scrotum, pain occupies the lower abdomen and loins, and when the pain has set in, it (i.e. the uterus) is unwilling to return to its proper place.

(*Nat.Mul.5* L.7.316-318; trans.Potter, 2012, p. 199)

Prolapse of the uterus is often described as occurring post-partum, due to over exertion or having intercourse during the lochia flux or straight after the birth of a child (*Nat.Mul.5* L.7.316). Although the Hippocratic authors do not state why the uterus is particularly vulnerable, at this

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<sup>143</sup> Aristotle (*HA.582b22-28*) does mention the uterus ‘coming down’ and states that menstruation will occur three times a month until conception occurs at which point it will return to its original position; this is caused by a lack of intercourse. However, he does not mention if this affects the woman’s fertility.

point it would seem sensible to suggest that the reason could be that they thought the mouth of the uterus was more open after birth and therefore the uterus would have an easy passage out of the body. However, in the third book of *Diseases of Women* it is stated that not having intercourse either straight after birth (*DW*.3.248 L.8.460) or during the lochia (*DW*.3.247 L.8.460) will cause a prolapse. The reasons for the author believing this to be the case are not clear especially considering in the second example the same sentence suggests that over-exertion is the other cause of prolapse.<sup>144</sup>

As previously mentioned, the Hippocratics believed that the uterus could move up towards the liver (cf. *DW*.2.127 L.8.272). This is often described as both happening quickly and violently. For example in *Diseases of Women* the action is described in the following way:

ἦν δὲ πνιξ προστῇ ἐξαπίνης, γίνεται δὲ μάλιστα τῇσι μὴ ξυνιούσῃσιν ἀνδράσι καὶ τῇσι γεραιτέρῃσι μᾶλλον ἢ τῇσι νεωτέρῃσι· κουφότεραι γὰρ αἱ μήτραι σφέων εἰσί· γίνεται δὲ μάλιστα διὰ τόδε· ἐπὶν κενεαγγήσῃ καὶ ταλαιπωρήσῃ πλέον τῆς μαθήσιος, ἀνανθεῖσαι αἱ μήτραι ὑπὸ τῆς ταλαιπωρίας στρέφονται, ἅτε κενεαὶ ἐοῦσαι καὶ κοῦφαι· εὐρυχωρίῃ γὰρ σφὶν ἐστὶν ὥστε στρέφεσθαι, ἅτε τῆς κοιλίης κενεῆς ἐούσης· στρεφόμεναι δὲ ἐπιβάλλουσι τῷ ἥπατι, καὶ ὁμοῦ γίνονται, καὶ ἐς τὰ ὑποχόνδρια ἐμβάλλουσι· θέουσι γὰρ καὶ ἔρχονται ἄνω πρὸς τὴν ἱκμάδα, ἅτε ὑπὸ τῆς ταλαιπωρίας ξηρανθεῖσαι μᾶλλον τοῦ καιροῦ· τὸ δὲ ἥπαρ ἱκμαλέον ἐστίν· ἐπὶν δὲ ἐπιβάλῃ τῷ ἥπατι, πνίγα ποιέουσιν ἐξαπίνης ἐπιλαμβάνουσαι τὸν διάπνοον τὸν περὶ τὴν κοιλίην.

If suffocation occurs suddenly, it will happen especially to women who do not have intercourse and to older women rather than to young one, for their wombs are lighter. It usually occurs because of the following: when a woman is empty and works harder than in her previous experience, her womb, becoming heated from the hard work, turns because it is empty and light. There is, in fact, empty space for it to turn in because the belly is empty. Now when the womb turns, it hits the liver, and they go together and strike

<sup>144</sup> Not having intercourse soon after birth as a reason for prolapse does seem odd and we might expect the reverse to be true. However, unless the text is corrupt this would seem to be the case with the author stating ἢ τῷ ἀνδρὶ μὴ ξυγκοιμᾶται ἐν τῷ λοχείῳ and ἦν ἐκ τόκου ἐοῦσα τῷ ἀνδρὶ μὴ παρακοιμᾶται.

against the abdomen – for the womb rushes and goes upward toward the moisture, because it has been unduly heated by hard work, and the liver is, after all, moist. When the womb hits the liver, it produces sudden suffocation as it occupies the breathing passage around the belly.

(*DW.1.7 L.8.32.1-12*; trans.Hanson, 1975, p. 576)

The idea of uterine suffocation as described in the passage above is one which is mentioned relatively frequently in the Hippocratic texts, and it is one of the most extreme conditions described as being caused by uterine displacement. Later in the same passage, it is stated that if the uterus returns to its natural place in the body, after becoming heavy by taking on moisture from the liver, then the suffocation will cease and the woman will be restored to health. However, if the uterus lingers near the liver for any length of time the woman will die owing to suffocation. The types of symptoms that are described as being displayed by women affected by suffocation are multiple and include; difficulty breathing, paleness, grinding of the teeth, fainting, and loss of speech, as well as pains in the head (e.g. *DW.1.7 L.8.32*; *DW.1.20 L.8.60*; *DW.2.124 L.8.268*; *DW.2.125 L.8.268*). Similarly, uterine suffocation is described as occurring if the uterus moves towards the heart (*DW.2.124 L.8.268*) or the hypochondria (*DW.2.125 L.8.268*; *DW.2.126 L.8.272*). The Hippocratic texts also describe how the uterus ‘seems to sit under the diaphragm’ (*DW.2.20 L.8.384.12-18*; trans.Hanson, 1991, p. 86) and also ‘turn[s] towards the head’ (*DW.2.123 L.8.266*). The result of these types of movements again appears to be suffocation.<sup>145</sup>

Treatments for uterine displacement were wide-ranging depending on the type of displacement the woman was suffering, the most mentioned type of treatment being ‘odour therapy’ which involved placing a pleasant or unpleasant substance, either under the genitals or in/near the mouth or in some cases both. The uterus was then thought to move towards the pleasant fragrance or away from a foul smelling one (*DW.2.127 L.8.274*; *DW.1.20 L.8.60*; *DW.2.123 L.8.266*; *DW.2.125 L.8.268*; *DW.2.128 L.8.274*; *DW.3.247 L.8.460*). Other treatments included remedies

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<sup>145</sup> Here I have only described a select few of the conditions resulting from uterine displacement; for a fuller account see Hanson (1991), King (1998) and Dean Jones (1994).

designed to cleanse the body (*DW.3.248* L.8.460.462; *DW.1.20* L.8.60; *DW.2.129* L.8.276), pessaries (*DW.2.126* L.8.270; *DW.2.134* L.8.304), and tying a bandage around the upper part of the abdomen to stop the uterus being able to move upwards (*DW.2.127* L.8.272). Intercourse and pregnancy are also mentioned as cures (*DW.3.247* L.8.460; *DW.2.131* L.8.278; *DW.2.128* L.8.274). For prolapse, to help draw up the uterus, vomiting and laying with the lower half of the body elevated is also described as treatments (*DW.3.248* L.8.460-462; *DW.2.142* L.8.314).

#### The effect of uterine displacement on fertility

Although displacement of the uterus was widely discussed in the Hippocratic texts and has received much attention from modern scholars' one curious aspect of uterine displacement, rarely discussed in the sources, was the effect it might have on a woman's fertility. As I have shown the displacement of the mouth of the uterus was seen as a barrier for conception. However, the link between displacement of the entire uterus and infertility is rarely made by the Hippocratic authors with a couple of exceptions.

Uterine displacement is sometimes mentioned as occurring in conjunction with the mouth of the uterus and thus leading to infertility; for example in *Diseases of Women* the author notes that 'there are also occasions when after the womb is displaced, the mouth happens to be turned too far' (1.2 L.8.16; trans. Hanson, 1975, p. 574). The text goes on to describe the effects of the retention of the menstrual fluid and the infertility this causes. In this example, infertility occurs not as a result of the uterus being displaced, but because of the resulting displacement of its mouth. In another passage (*DW.2.133* L.8.280) the uterus is described as moving towards the hip; the author states that if it does not move back quickly it will become dry which will cause the mouth of the uterus to turn and move upwards. Similarly in *Diseases of Women* 2.129 (L.8.276), the uterus is described as going towards the side of the body and the author mentions that the woman will not become pregnant whilst this is the case. In this passage the movement of the mouth of the uterus is not mentioned; however, the symptoms of this condition include retention of the menses and the associated symptoms, which suggests that the mouth of the uterus has become blocked and moved to the side of the body along with the uterus.

There is only one other example of uterine displacement and infertility being linked that I have found. In *Diseases of Women* 2.131 (L.8.278), the following description of the movement of the uterus is given; αἱ μήτραι εἰλέωσι σφέας τὸ μεσηγὺ τῶν ἰξύων, ‘the uterus revolves in the middle of the loins’, suggesting that the uterus stays in its place in the middle of the body, but turns. The use of the word εἰλέωσι suggests that the uterus is essentially ‘flipping over’. That is, instead of the uterine mouth being aligned with the vagina, it is now facing toward the upper abdomen with the bottom of the uterus now positioned where the mouth of the uterus should be. The symptoms include pain in the abdomen, legs and hips and difficulty urinating and defecating and the author suggests a combination of pessaries, fumigation and vapour baths as treatment. At the end of the passage, it is suggested that after treatment, the woman should have intercourse with her husband and if she becomes pregnant, she will be cured. However, the final line of the passage notes that many women will remain infertile and often lose the use of their legs. As in the other passages, infertility here seems to be linked to the mouth of the uterus being out of place, although this is not directly mentioned.

Apart from these four examples, all of which relate to both the uterus and its mouth displacing, I have found no other examples of uterine displacement causing infertility in the Hippocratic texts. I find particularly striking the lack of discussion of infertility in the descriptions of the upward movement of the uterus, when the uterus can be described as moving towards the liver, heart and hypochondria. The lack of a link between infertility and the upwards movement of the uterus suggests two possibilities either the Hippocratic writers did not believe there was any such link or the nature of uterine displacement meant that it was felt not to be relevant.

Although there is no mention of infertility in the passages of the corpus exploring the upward movement of the uterus, the idea of the uterus breaking away from the vagina and travelling through the body up to the diaphragm and conception still being able to occur seems to make little sense, not only in our terms but also in terms of Hippocratic models of the body. If the Hippocratics did think that conception could occur during uterine suffocation then realistically they would also need to believe that the uterus was still attached to the vagina and that the mouth of the uterus was in place. For this to be the case, and uterine suffocation still to occur, we would

have to imagine the uterus effectively ‘stretching’ up towards the upper part of the body, putting pressure on the organs but not physically reaching them. But there is nothing in the descriptions of uterine displacement in the Hippocratic texts to suggest this is the case. The movement of the uterus is described in many different ways in the Hippocratic texts, and the language used is somewhat ambiguous in places. In many passages the uterus is described as ‘hitting’ (e.g. ἐπιβάλλω), ‘falling upon’ or ‘attacking’ (e.g. προσπίπτω) or ‘turning aside’ or ‘toward’ (e.g. ἀποστρέφω or ἐκτρέπω) different organs and parts of the body. It is never made very clear whether we should think of the uterus actually reaching the organs or just moving in their direction. The lack of any relationship with infertility is particularly noticeable in the third book of *Diseases of Women* (3.213 L.8.414), where the author lists the causes of infertility; it is only the displacement of the mouth of the uterus that is mentioned, never the displacement of the entire uterus.

However, there is a second possibility here, and that is that the Hippocratic authors did not feel it necessary to mention infertility when describing uterine displacement and uterine suffocation. One of the reasons for this could be because the effects of uterine suffocation on the health of the woman can be so extreme and result in death. Therefore, the Hippocratic author may not have felt fertility to be an important factor (although it should be noted that in cases of severe retention of the menses resulting in death, fertility is still mentioned). Alternatively, the author may have felt that infertility was such an obvious result of uterine displacement that there was no need to mention it. This is supported by *Diseases of Women* 2.131(L.8.278), where the uterus is described as revolving in the middle of the loins. In this passage, there is no mention of fertility until the last line of the passage, when the author states that many women become infertile and lame from this disease.<sup>146</sup> The fact that fertility is not mentioned until the last line of the passage may suggest that the author is assuming the reader will understand this condition will affect the woman’s fertility without having to be told this is the case, only needing to mention that her fertility may not be restored.

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<sup>146</sup> ἄτοκοι δὲ πολλαὶ καὶ πηραὶ τὰ σκέλεα πολλάκις γίνονται.

Further evidence that the Hippocratic authors believed uterine displacement caused fertility issues may be found in the use of pregnancy as a cure for the disorder. While the fact that pregnancy could cure uterine displacement should suggest that the Hippocratic writers thought fertility was unaffected, the way in which pregnancy was utilised in fact suggests the opposite. In *Diseases of Women* 2.128 (L.8.278), a condition is described where the uterus becomes inflamed and moves towards the hypochondria, and on its return the uterus is described as not returning directly downwards but moving down and sideward leading to problems with retention of the menses. The author suggests that once treatment was administered, in the form of fumigation, the woman should have intercourse with her husband, finally noting that pregnancy is a cure for this condition. Here the condition is first treated to ensure the uterus returns to its correct position, and then it is stated that the woman should have intercourse with her husband, presumably to moisten her womb and become pregnant which would stop the uterus displacing again. However, the displacement needs treatment first, to encourage the uterus back into the correct position for conception to occur.<sup>147</sup>

The link between displacement of the uterus and infertility is by no means clear in the Hippocratic texts, although the combination of displacement of both the mouth of the uterus and the uterus itself was certainly seen as a cause of infertility. While we might assume that displacement of the uterus would inevitably result in infertility, this does not seem to be the case if the mouth of the uterus remained in the correct position.

#### Diseases and conditions affecting the male reproductive system

Having explored the diseases that were believed to affect female fertility in the Hippocratic texts, I now turn my attention to those affecting the male reproductive system. As I have previously noted discussions relating to male infertility are limited but there are some interesting and important exceptions to this. The main problems associated with male infertility can be broadly

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<sup>147</sup> Pregnancy is also mentioned in *DW*.2.127 L.8.272 in the movement of the uterus towards the liver; the author here seems to be suggesting pregnancy as a preventative measure rather than a cure.



divided into two categories: the first involve physical damage to the reproductive system and the second problems with the production or quality of semen.

One of the most detailed descriptions of problems with the male reproductive system appears in the text *On Generation* where the author gives the following account:

οἱ δὲ εὐνοῦχοι διὰ ταῦτα οὐ λαγνεύουσιν, ὅτι σφέων ἡ δίοδος ἀμαλδύνεται τῆς γονῆς· ἔστι γὰρ δι' αὐτῶν τῶν ὀρχίων ἡ ὁδός· καὶ νεῦρα τείνει λεπτὰ καὶ πυκνὰ ἐς τὸ αἰδοῖον ἐκ τῶν ὀρχίων, οἷσιν ἀείρεται καὶ καθίεται, καὶ ταῦτα ἐν τῇ τομῇ ἀποτεμένεται, διὸ οὐχ ὑπάρχουσιν οἱ εὐνοῦχοι χρηστοί· τῶν δὲ τάδε ἐκτριβέντων ἡ ὁδὸς τῆς γονῆς ἐμπέφρακται· παροῦνται γὰρ οἱ ὀρχιες· καὶ τὰ νεῦρα σκληρὰ καὶ μωρὰ γενόμενα ὑπὸ τοῦ πόρου οὐ δύναται τείνειν καὶ χαλᾶν. ὁκόσοι δὲ παρ' οὓς τετμημένοι εἰσὶν, οὗτοι λαγνεύουσι μὲν καὶ ἀφιᾶσιν, ὀλίγον δὲ καὶ ἀσθενὲς καὶ ἄγονον· χωρέει γὰρ τὸ πλεῖστον τοῦ γόνου ἀπὸ τῆς κεφαλῆς παρὰ τὰ οὐατα ἐς τὸν νωτιαῖον μυελόν· αὕτη δὲ ἡ δίοδος ὑπὸ τῆς τομῆς οὐλῆς γενομένης στερεὴ γέγονεν.

Eunuchs do not have intercourse because the passageway of their seed is destroyed, i.e., the passage through the actual testicles; also dense, narrow cords extend from the testicles to the penis, by means of which it is raised and lowered, and these are cut away by the incision, and for this reason eunuchs are not potent. In persons who have been crushed in these parts, the passageway of the seed is blocked, for their testicles become callous, and the cords, becoming hard and insensitive due to their callosity, are unable to contract and relax. Persons who are incised beside the ears are able to have intercourse and to ejaculate, but it (i.e., their seed) is small in amount, weak, and [infertile]; for the greatest part of the seed flows from the head past the ears into the spinal marrow, and this passageway becomes solid on account of the scarring from the incision.

(*Gen.2 L.7.470*; trans. Potter, 2012, p. 9–11)

The reasons the author of *On Generation* gives for problems of the male reproductive system all relate to an interruption of the passage of the semen through the body. In the case of eunuchs, it was the passageway through the actual testicles that was destroyed which meant that the semen has no route through the body. In addition to the passageway of the semen being destroyed, these men are also impotent as the cords from the testicles to the penis that contract to produce an erection are destroyed. Similarly in men whose testicles are crushed the passageway of the seed is interrupted in this case because they become hard and for this reason the author regards these men as impotent too.<sup>148</sup> Berrey (2014, p. 294) suggests that in the case of the genitals being crushed only ejaculation is prevented, not erections. However, if eunuchs were believed not to be able to achieve an erection because of the cutting of the cords that raise and lower the penis then surely the hardening of these same cords, which results in them not being able to contract or relax, must mean that the author believed both types of men to be impotent.<sup>149</sup>

The final issue the author describes is an interesting one. The incision behind the ear does not cause a direct problem with the reproductive system and these men are still able to have intercourse. However, as I described in chapter 1 the Hippocratic author of this text believed that semen was drawn from the entire body and it worked its way through the body during intercourse. The incision behind the ear interrupted this passage through the body, weakened the semen and made it infertile.

One of the most famous examples of male infertility in the Hippocratic texts is that of the Scythians outlined in the text *Airs, Waters, Places*, and while this also features a cut behind the ear although the explanation for their infertility is somewhat different to that given in *On Generation*.<sup>150</sup> In *Airs, Waters, Places* (22 L.2.76) the author states that as the Scythians ride

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<sup>148</sup> Aristotle (*GA*.728a15-18) also describes men whose generative organs have been destroyed not being able to concoct semen, which leads to them having loose bowels due to the unconcocted semen being secreted into their intestines.

<sup>149</sup> The inability to achieve an erection is also mentioned as a symptom of sciatica (*Prorrh*.2.41 L.9.70).

<sup>150</sup> An incision behind the ear causing infertility is also found in *Loc.Hom*.3 L.6.280-282. In *Epid*.6.5.15 L.5.320 an incision behind the ear for κέδματα is described but there is no mention of any effect on fertility. Here I focus on the Hippocratic writer's view of the causes of impotence among the Scythians. However,

astride their horses they have swelling in their joints (κέδματα)<sup>151</sup> and become lame and develop sores on the hips. This in itself does not cause their infertility but the way they cure this problem does.

όκόταν ἄρχηται ἡ νοῦσος, ὅπισθεν τοῦ ὠτὸς ἐκατέρην φλέβα τάμνουσιν· ὅταν δὲ ἀπορῶνῃ τὸ αἷμα, ὕπνος ὑπολαμβάνει ὑπὸ ἀσθενείης, καὶ καθεύδουσιν· ἔπειτα ἀνεγείρονται, οἱ μὲν τινες ὑγιέες ἐόντες, οἱ δ' οὐ. ἐμοὶ μὲν οὖν δοκέει ἐν ταύτῃ τῇ ἰήσει διαφθείρεσθαι ὁ γόνος· εἰσὶ γὰρ παρὰ τὰ ὦτα φλέβες, ἃς ἐάν τις ἐπιτάμη, ἄγονοι γίγνονται οἱ ἐπιτηθέντες· ταύτας τοίνυν μοι δοκέουσι τὰς φλέβας ἐπιτάμνειν.

At the beginning of the disease they cut the vein behind each ear. When the blood has ceased to flow faintness comes over them and they sleep. Afterwards they get up, some cured and some not. Now, in my opinion, by this treatment the seed is destroyed. For by the side of the ear are veins, to cut which causes impotence [infertility], and I believe that these are the veins which they cut.

(*AWP.22 L.2.76-78*; trans.Jones, 1923, p. 127–129)

In this passage cutting behind the ear destroys the seed and leads to the man becoming infertile. Jones chooses to translate ἄγονοι as impotence in this passage although as I have previously argued, ἄγονος generally means infertile. However, later in the same passage the author notes that when these men attempt intercourse with a woman they find they cannot do so. It is not explicitly stated they are impotent but this is implied by the fact they cannot complete the act of intercourse.<sup>152</sup> The author of *Airs, Waters, Places*; goes on to say that these men, after two or three

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Lieber (2003) gives a good account of the various attempts to retrospectively diagnose the impotence of the Scythians including suggesting this may be due to the group of diseases called haemochromatosis or hereditary disorders.

<sup>151</sup> The exact nature of the disorder κέδματα is difficult to determine although it seems to involve swelling of the joints. See Lieber (2003, p. 355–356 n.14) for a summary of the different ideas surrounding this disease.

<sup>152</sup> As Berrey (2014, p. 294 n.15) has noted, in *AWP.22 L.2.76-82* the author describes the Scythian men as μὴ οἷοί τ' ἔωσι χρῆσθαι σφισιν (are not able to have sex with women). In *Gen.2 L.7.470* eunuchs are said to be οὐ χρηστοί (not able to have intercourse). The similarity in language suggests that the Scythians too suffered from erectile dysfunction.

attempts at intercourse, assume that they have offended the gods and begin to dress like women and perform women's work.<sup>153</sup> Berrey (2014, p. 294) suggests that the reason that the author of *On Generation* does not suggest that an incision behind the ear causes erectile dysfunction whereas the author of *Airs, Waters, Places* suggests it does, is because whilst the author of the first text believes that it is the tendons connecting the penis and the testicles which creates an erection, while the author of the latter text sees the downward flow of the semen itself as being responsible. Therefore, without semen there cannot be an erection. This seems a plausible analysis of the situation, although, the description given by the author of *Airs, Waters, Places*, remains somewhat ambiguous.

In addition to the physical damage that can occur to a man's reproductive organs, Aristotle (*GA*.746b.23-25; cf. *GA*.581b22-24) notes that some men, and women, can be borne with congenital abnormalities of the genitals which can result in the men not growing beards and remaining impotent or eunuch like.<sup>154</sup> In the case of women, they will not go through puberty. Aristotle (*GA*.746b33-747a5) states that sometimes these abnormalities can be cured but not if they have occurred during the early stages of development of the foetus. He further, notes that in these cases the women will look masculine and not menstruate and the men will be effeminate and have semen that is thin and cold. In this account we find the only test for the fertility of semen in any ancient text. Aristotle states that, when placed in water fertile semen will sink to the bottom, whereas infertile semen will quickly diffuse itself on the surface.<sup>155</sup>

In the Hippocratic texts there is only one mention of male semen being affected by anything other than external physical damage to the body. In *Aphorisms* (5.64 L.4.556), the author states that

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<sup>153</sup> Herodotus too describes the impotence of the Scythians but in his account, this condition is retribution from the gods for the looting of shrines (*Hist.*1.105.2-4). See Thomas (2000 esp. pp.54-71) and McMahon (1998, p. 69-73) for a summary of the differences between the two accounts. See also chapter 4 for further discussion on Scythian infertility in *AWP* and the effects of environment on fertility.

<sup>154</sup> The word used here is *εὐνουχίας*, LSJ gives the definition as 'like a eunuch; impotent'. This is the only time Aristotle uses this word. Similarly, in the Hippocratic Corpus it is used in *AWP*.22 L.2.76 to describe the Scythians. Although similar, it is distinct from the term *εὐνοῦχος* used in the passage given from *Gen.*2 L.7.470, which refers to a man who has been castrated.

<sup>155</sup> cf. *HA*.581a30-33 for infertile seed being described as cold and thin.

female fertility can be affected by the coldness and dampness of the womb. The author goes on to state that similarly, a man will be affected if he does not have enough 'breath' (*pneuma*) in his body to force the seed through, and out of the body, which can happen if the body is too dense. Alternatively, the seed itself may be too dense, due to coldness, to move through to the penis. Aristotle (GA.746b39; GA.725a9-10) notes that diseases can occur elsewhere in the body which leave the semen emitted fluid and cold, although he does not state the exact nature of these diseases. However, in another passage he states that those in bad health may emit other residues that are morbid along with the semen. This means that the emission is infertile because it contains so little semen (GA.725b14-17).

### Conclusion

As this chapter has shown the effect that diseases of the reproductive system were believed to have on fertility are extensively discussed in the Hippocratic Corpus, especially in the case of women. These range from physical damage to the uterus, to problems with the materials needed for conception. If any of the stages of conception are interrupted, the couple will not be able to produce a living child. The problems outlined with female fertility focus on the woman's ability to retain the semen of both partners or provide the right condition for the child to develop in the uterus. The problems associated with male infertility, as we would expect, focus on the man's ability to perform the act of intercourse and produce fertile semen.



## Chapter 4.

### Causes of Infertility – Body type, diet and environment

The relationship between diet, activity and environmental factors and the physical state of the body was one of the utmost importance in the ancient medical texts, and these offer us regimens both to support more general health and to combat individual diseases and conditions. As well as finding advice on diet, different activities and how to take into consideration the environment one lives in, the Hippocratic Corpus also includes entire treatises devoted to these ideas such as *Regimen in Health* and *Regimens on Acute Diseases*. These texts suggest different regimens to follow depending on the season, for example, suggesting that in winter, which is cold and wet, meat should be roasted to make the body as hot and dry as possible. Conversely, in summer, which is hot and dry, meat should be boiled in order to encourage the opposite effect on the body. Unsurprisingly, the relationship between a person's fertility and their regimen is something that is also frequently mentioned by the Hippocratic authors.

This chapter explores not only how the ancient medical writers set about curing fertility problems caused by the patient's actions, such as obesity or over-exercising, but also how they saw fertility as something that they could attempt to control through diet, exercise and awareness of the climate and environment in which their patient lived. Furthermore, whereas the previous chapter explored the causes of infertility from an internal viewpoint, that is the direct effect of diseases and conditions on the person's capacity to reproduce, this chapter focuses on the effect external factors were ultimately thought to have on the internal working of the body. This is not to say that some of the diseases and conditions described in the previous chapter did not stem, at least in part, from external factors. For instance, as we saw, one of the causes of ulcers in the uterus was thought to be the aggressive use of pessaries (*DW*.3.230 L.8.438) and excessive exercise is given as one of the factors causing uterine displacement (e.g. *DW*.2.138 L.8.310-312). However, as I will demonstrate, the effect of external factors on fertility was thought to be much more wide-ranging than causing particular diseases or conditions associated with fertility.

In the first section of this chapter, I will examine how the Hippocratic authors used a person's external appearance to determine whether a person was likely to be fertile. I will then turn my attention to the relationship between obesity and thinness and fertility. While in some respects these are the consequence of not following regimens linked to diet and exercise, body size itself is directly linked to fertility in the ancient medical texts and obesity in particular is frequently linked to fertility issues. This section will not only explore how a person's weight was believed to affect fertility but poses the question of how we, as modern scholars, should understand ancient thoughts on weight and fatness. To try and answer this I will discuss the complexity of the language used to describe body size in the ancient texts and suggest how looking at individual terms associated with weight can help us begin to understand what type of body an ancient physician had in mind when they described obesity as an obstacle to conception. I will then turn my attention to the effect that different environments and climates were thought to have on fertility. I will also consider the advice given by the Hippocratic authors on the best season to conceive a child. The final section of this chapter examines the regimens suggested by the Hippocratic authors to aid in the conception of a child including both dietary advice and activities to be undertaken both before and after intercourse:

#### Looking fertile – the association between physical characteristics and fertility

The idea that a person's external characteristics can tell us about what is happening on the inside of the body is an interesting concept. For the Hippocratic writers, who did not practice dissection, the external appearance, what they could feel from palpating the patient and the fluids that were emitted from the body were their only diagnostic tools. Therefore, the external appearance of the body was not only used to detect illness; the patient's appearance when they were healthy also helped to guide the physician.

One of the most detailed accounts of how a person's physical appearance could help physicians determine a person's fertility status comes from the text *Prorrhetic*.

τῶν δὲ γυναικῶν ὅσαι μᾶλλον καὶ ἧσσον ἐν γαστρὶ λαμβάνειν πεφύκασιν, ὧδε ὑποσκέπτεσθαι· πρῶτον μὲν τὰ εἶδεα· σμικραὶ τε γὰρ μειζόνων ἀμείνονες ξυλλαμβάνειν,



λεπταὶ παχειῶν, λευκαὶ ἐρυθρῶν, μέλαιναὶ πελιδνῶν, φλέβας ὅσαι ἐμφανέας ἔχουσιν, ἀμείνονες ἢ ὅσησι μὴ καταφαίνονται· σάρκα δὲ ἐπίθρεπτον ἔχειν πρεσβυτικῇ πονηρόν, μαζοὺς δὲ ὀγκηρούς τε καὶ μεγάλους ἀγαθόν. ταῦτα μὲν τῇ πρώτῃ ὄψει δῆλόν ἐστι.

Which women are by nature more, and which less, inclined to become pregnant you must investigate as follows. First, their physical appearance: small women conceive better than larger ones, thin better than obese, pale better than ruddy, dark better than livid, and those with visible vessels better than those in whom the vessels are not visible. For an old woman to have well-nourished flesh is pernicious, but to have large and bulky breasts good. These things are clear at first sight.

(*Prorrh.*2.24 L.9.54; trans.Potter, 1995, p. 267)

In this text, we are informed that the first indication a physician will get of whether someone is likely to conceive is their physical appearance. I will explore the ideas surrounding weight and size in the next section in detail but it is worth noting here that a person's weight and body type were perceived to have an effect on a person's fertility and that a larger woman was believed to be less fertile than a smaller one.

The colour of a woman's skin is also noted as a sign of fertility, with those who are pale being described as being more likely to conceive than those who are ruddy in colour. The reason for this seems to be given in the treatise *Diseases of Women* where it is said that 'very light women are more moist and more prone to fluxes, darker women are more compact and dry, and brown women hold the middle' (2.111 L.8.238; own translation).<sup>156</sup> Here the colour of the skin is suggestive of the makeup of the flesh of the woman and this in turn affects her fertility. Aristotle (*GA*.727b33-728a4) too links the colour of a woman's flesh to her fertility, stating that pale and feminine women (ταῖς λεθοχροῖς καὶ θηλυκαῖς) secrete more fluids and feel more pleasure during intercourse than dark and manly-looking women (ταῖς μελαίναις καὶ ἀρρενωποῖς). Later he notes that, although a woman does not need to receive pleasure from intercourse or produce

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<sup>156</sup> αἱ μὲν γὰρ ὑπέρλευκοι ὑγρότεραί τε καὶ ῥωδέστεραι, αἱ δὲ μέλαιναὶ ξηρότεραί τε καὶ στρυφνότεραι· αἱ δὲ οἰνωποὶ μεσηγὺ τι ἀμφοῖν ἔχουσιν.



these fluids, if they do then conception is more likely to occur as the mouth of the womb is opened more widely making the passage of the seed easier (*GA*.739a29). Thomas (2002, p. 10) suggests that this ‘marks deviations from the ideal as unfeminine and potentially less productive’. As pale skin was an indicator of being upper-class and to some extent of good moral character in that these women were not spending time outdoors it would seem that the medical evidence in this case is working alongside social ideals in ancient Greece.<sup>157</sup>

In the example above, the author is describing the colour of the skin and its effects on fertility; however, the colour of the skin can also suggest a disease affecting fertility. In another passage of *Prorrhetic* the following description is given:

ὁκόσαι μὲν οὖν τῶν γυναικῶν μὴ δύνανται ἐν γαστρὶ λαμβάνειν, φαίνονται δὲ χλωραὶ,<sup>158</sup>  
μήτε πυρετοῦ μήτε τῶν σπλάγχχνων αἰτίων ἐόντων, αὗται φήσουσι κεφαλὴν ἀλγέειν, καὶ  
τὰ καταμήνια πονηρῶς τε σφίσι καὶ ἀκρίτως γίνεσθαι. καὶ ὀλίγως δὲ καὶ πολὺν χρόνον  
ἦν τῇσιν οὕτω διακειμένῃσιν γίνηται ἢ παντάπασιν ἀφανέα ἢ, αἱ μῆτραι καθάρσιος  
ταύτησι προσχρῆζουσιν.

Women who are unable to become pregnant, but take on a yellow-greenish appearance, without there being any fever or reason in the inward parts for it, say that they have headaches, and that their menses are troublesome, irregular and scanty; if, in women who remain in this state for a long time, the menses disappear completely, the uterus requires a cleaning.

(*Prorrh.*2.24 L.9.54-56; trans.Potter, 1995, p. 269)

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<sup>157</sup> Pale skin had positive connotations in ancient Greek society more generally. Pale skin was representative of upper-class women, who did not spend time outdoors and sometimes to indicate youthfulness (see Thomas, 2002 and Robson, 2013b, p. 119–120 for an overview of the evidence). Conversely pale skin in men is normally, although not always, viewed in a negative light (Robson, 2013a, p. 130, cf. 2013b, p. 56).

<sup>158</sup> Although translated here as yellowish-green χλωρός can also mean yellow or even more generally pale or pallid. I have kept Potter’s translation here to distinguish it from the previous passage where the author uses λευκός, the more common word for pale, to state that pale woman conceive better than those who are ruddy.

In this case, the yellowish-greenish appearance of the skin is accompanied by menstrual problems. It is not clear in this passage what condition the Hippocratic doctor may have thought the woman had which caused her to take on this appearance. However, *Nature of Women* (22 L.7.340) notes that when menstrual blood is placed on sand and left to dry, the sand will take on a yellow-greenish colour if the woman is bilious. Therefore, it may be in this case that the woman would be considered to have excess bile in her body.<sup>159</sup>

Even if a woman had all the characteristics that a Hippocratic physician would look for in a fertile woman pregnancy could still prove problematic.<sup>160</sup> In the text *Prorrhetic* the following is stated:

ὁκόσαι δὲ εὐχροοὶ τέ εἰσι καὶ σάρκα πολλήν τε καὶ πείραν ἔχουσι, καὶ φλέβια κεκρυμμένα, ἀνώδυνοί τε εἰσι καὶ τὰ καταμήνια ταύτησιν ἢ παντάπασιν οὐ φαίνεται, ἢ ὀλίγα τε καὶ ἀκρίτως γίνεται, τῶν τρόπων οὗτος ἐν τοῖσι χαλεπωτάτοισιν ἐστὶ καταναγκάσαι ὥς ἐν γαστρὶ λαμβάνειν.

Women who are of good colour, who are fleshy and plump with their vessels hidden, who are free of pains, but whose menses either do not appear at all or are scanty and irregular: this is one of the most difficult types in which to force pregnancy to occur.

(*Prorrh.2.24 L.9.56*; trans.Potter, 1995, p. 269)

If a woman who had all the characteristics associated with fertility and could still not get pregnant then they were considered harder to cure than women who were not considered to ‘look’ fertile.

There is little indication in the Hippocratic Corpus that the fertility of men could be detected through their physical characteristics; however, Aristotle does give guidance on the matter. Aristotle states that men with a larger penis are less fertile than those with a moderately large penis, as the semen cools too much while being transported and becomes infertile (*GA.718a23-26*).<sup>161</sup> He also suggests that baldness occurs in men who have plenty of semen, whereas women,

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<sup>159</sup> In *DW.2.183 L.8.365* the author notes that bile in the uterus will also produce yellow urine.

<sup>160</sup> See chapter 8 for a detailed discussion on natural infertility compared to that caused by disease.

<sup>161</sup> See p.66 for the full passage.

children and eunuchs are not affected due to their lack of semen (GA.783b35-784a10; cf. HA.632a5-6).<sup>162</sup> As in the case of women the colour of the flesh was also thought to be an indication of fertility, with Aristotle stating that men, who are fair, produce more semen than those who are dark (HA.583.7-10).

Consequently, both Aristotle and the Hippocratic writers believed that a person's physical appearance could give an indication of their fertility status.

### Obesity and thinness

In the passage from *Prorrhetic* (24 L.9.54) it is said that large women were less fertile than those who are smaller in this section I will explore the reasoning behind this statement. Obesity is frequently mentioned as a cause of infertility in the ancient medical texts. *Nature of Women* gives this explanation:

ἤν δὲ παχυνθῇ παρὰ φύσιν, οὐκ ἴσχει ἐν γαστρὶ· τὸ γὰρ ἐπίπλοον ἐπικείμενον πουλὺ καὶ παχὺ ἀποπιέζει τὰς ὑστέρας, καὶ τὴν γονὴν οὐκ εἰσδέχεται. ταύτην χρὴ λεπτύναντα φάρμακον πῖσαι κάτω, καὶ πρὸς τὰς ὑστέρας προσθεῖναι, ὅ τι καθαίρει αὐτὰς καὶ φύσας [οὐκ]<sup>163</sup> ἐμποιεῖ.

If a woman is unnaturally obese, she will not become pregnant, since her omentum - being large and full - lies on top of and compresses her uterus, so that she cannot receive the male seed. You must make such a patient thinner by giving her a purgative medication to drink, and apply to her uterus a suppository which cleans it and [not] put[s] air into it.

(*Nat.Mul.*20 L.7.340; trans.Potter, 2012, p. 221–223)<sup>164</sup>

The reason given here for obesity affecting fertility is that the mouth of the uterus is blocked by the additional fat in this area. The solution given is a simple one; the woman should be slimmed

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<sup>162</sup> See p.67 for the full passage.

<sup>163</sup> Del. Ermerins (Potter, 2012, p.223, n.36).

<sup>164</sup> cf. *Aph.*5.46 L.5.518; *Superf.*29 L.8.494; *DW.*3.217 L.8.420; *DW.*3.229 L.8.438.

down and given a purgative and a suppository to clean both the uterus and the body. In *Superfetation* obesity is linked to another problem associated with fertility:

γυνή ἥτις παχεῖα παρὰ φύσιν ἐγένετο καὶ πείρα καὶ φλέγμα|τος ἐπλήσθη, οὐ κυῖσκεται  
τούτου τοῦ χρόνου· ἥτις δὲ φύσει τοιαύτη ἐστί, κυῖσκεται τούτων ἕνεκεν, ἣν μή τι ἄλλο  
κωλύη αὐτήν.

A woman who has become stout in an unnatural way, has added fat, and has filled up with phlegm, does not become pregnant at that time; but one who is naturally like this does become pregnant a result of these things, unless some other factor prevents her.  
(*Superf.*21 L.8.486-488 trans.Potter, 2010, p. 331)

Both of these passages note that for women who are ‘unnaturally’ (παρὰ φύσιν) obese, their fertility is affected by the additional weight. While *Superfetation* states explicitly that those who are naturally obese do not find it affects their fertility, in *Prorrhetic* (2.24 L.5.516) thin women conceive more easily than obese ones. This suggests that obesity was thought to be a potential problem whether or not the woman had a naturally large body type or had put on weight because of other factors. In neither of these passages are we told how a woman should be slimmed down. However, a general slimming regimen is given in *Regimen in Health* (4 L.6.76) which suggests that if a fat person wishes to become thin they should fast when exerting themselves and consume their food whilst out of breath. In addition, whilst still warm from the exertion they should have diluted wine and eat rich foods and meats seasoned with sesame, and sweet spices, whereas thin people who wish to regain weight should do the opposite.

In the Hippocratic text *Airs, Waters, Places* (21 L.2.76) we are informed of another effect that fatness and flabbiness had on fertility. The author describes how Scythian women are often overweight and, as mentioned in the previous passages, the mouth of the uterus is blocked by fat; however, an additional problem given here is that the fatness and moistness of their flesh means that the uterus is unable to absorb the seed. The natural moistness of a woman’s flesh is made

worse in the Scythian women by the climate they live in but also because, as the author of this text describes, they are ‘personally fat and lazy’ (ἀταλαίπωροι καὶ πῆραι). It is noticeable that over-eating is not mentioned as a cause of obesity instead as Susan Hill (2011, p. 73) has noted in the Hippocratic texts it ‘reflects the climate, environment, and social practices of the culture in which that body lives’. I agree with Hill’s assertions in the case of the Scythian women, however, in the other cases of infertility caused by obesity no explanation is given about why the woman is overweight, except perhaps in the cases where she is said to be naturally large. I will come back to these claims and what they might mean for our understanding of infertility in chapter 7.

In the Hippocratic texts, only the effect that obesity has on fertility in women is described; however in Aristotle, obesity as a cause of infertility in both men and women is described. Whereas the focus in the Hippocratic texts is on fat blocking the passage of the seed, Aristotle concentrates on the effect that being overweight has on the semen itself. For example, Aristotle describes how:

τὰ μὲν γὰρ πολὺσπερμα τὰ δ’ ὀλιγόσπερμά ἐστι, τὰ δ’ ἄσπερμα πάμπαν, οὐ δι’ ἀσθένειαν, ἀλλ’ ἐνίοις γε διὰ τοῦναντίον· καταναλίσκεται γὰρ εἰς τὸ σῶμα, οἷον τῶν ἀνθρώπων ἐνίοις· εὐεκτικοὶ γὰρ ὄντες καὶ γινόμενοι πολὺσαρκοὶ ἢ πῖότεροι μᾶλλον ἥττον προΐενται σπέρμα καὶ ἥττον ἐπιθυμοῦσι τοῦ ἀφροδισιάζειν.

Some individuals have much semen, some little, some none at all; and this is not due to any bodily weakness, but in some cases, at any rate, it is due to the opposite: the available supply gets used up to benefit the body; as an example of this we have men in sound health putting on rather a lot of flesh and getting a bit fat: these emit less semen and have less desire for sexual intercourse than is normal.

(*GA.725b29-34*; trans.Peck, 1942, p. 85)

Here it is male infertility that Aristotle is concerned with but in other passages he notes that women, too, are affected in the same way; whereas men who are overweight do not produce semen, women who are overweight will not menstruate (*GA.726a3-7*; *GA.746b25-29*). The reason why being overweight affects fertility is that the nutriment that the body receives via food, which

would normally go into producing semen or menstrual blood, is instead diverted to sustain this extra fat, and this is why those who are overweight are not able to produce the essential reproductive fluids (cf. *GA.726a3-7*; *GA.746b25-29*).<sup>165</sup> The difference between the Hippocratic and the Aristotelian accounts of how fat affects fertility may be due to the differences in the theories of conception. As Aristotle places more emphasis on the role of semen in his theory of conception, it is only natural that we find semen playing a bigger role in any fertility problems that may ensue.

In the Hippocratic texts, the only time thinness is related to fertility is when a disease of which thinness is a symptom is present. For example in *Prorrhetic* (2.25 L.9.516), the author notes that if a woman who is unable to become pregnant and who is thin also develops a fever then the physician should check for ulcers. Although the Hippocratic texts do not link thinness to infertility, in *Diseases of Women* the following is noted:

ὅταν ἰσχουσα ἐν γαστρὶ διαφθείρῃ, τὸ δὲ ἔμβρυον μηνιαῖον, | καὶ ἐκφέρειν ἐς τέλος μὴ δύνηται, καὶ λεπτὴ παρὰ φύσιν γένηται, ταύτην χρὴ καθήραντα τὰς ὑστέρας καὶ αὐτὴν φαρμακεύσαντα παχύνειν, οὐ γὰρ δυνήσεται ἐκφέρειν ἐς τέλος, ἔστ' ἂν ἐωυτὴν τε ἀναλάβῃ καὶ αἱ ὑστέραι ἰσχύωσιν.

When a pregnant woman aborts a one month old fetus, and cannot bring it to term, and she becomes unnaturally thin, you must, after cleaning her uterus and giving her a purgative medication, build her up, for she will not be able to bring an embryo to term until she recovers herself and her uterus becomes strong.

(*DW.3.237* L.8.452; trans. Potter, 2012, p. 381)

Whilst a thin woman may be able to conceive, she will still find it difficult to offer the required nourishment for the foetus to develop. There is one other place in the Hippocratic texts where thinness is mentioned alongside fertility. This is in the text *Airs, Waters, Places* (21 L.2.76) where, as a comparison to the overweight Scythian women mentioned previously, it is noted that the

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<sup>165</sup> Aristotle notes that in general animals that have more fat produce less semen than lean ones (*GA.727a-32-35*).



slave girls of the Scythians, because of their activity and the leanness of the body, are able to conceive readily.

Although the effect of weight on fertility is mentioned relatively frequently by the ancient medical writers it is never clear exactly when they would consider someone to be overweight to such an extent that it would affect their fertility. The terms obesity, overweight and fat are so subjective it is difficult to know whether each of the ancient medical writers have the same problem in mind when they describe obesity as a cause of infertility. Bradley (2011, p. 6) in his discussion of body size in classical art notes that:

Categories such as corpulent, fleshy, stout, paunchy, plump and pneumatic, as well as (at the other end of the spectrum), slender, scrawny, emaciated and skeletal, likewise carry with them loaded sets of values and responses that can affect significantly how we approach the subject, and the bodies of classical art in particular are vulnerable to misinterpretation.

The same is true in the ancient medical texts, and probably more so as there is no visual evidence for what the authors are describing. Similarly, we should be aware that when ancient medical writers describe the effect of fat on fertility, a patient that an ancient physician may label as 'overweight' or 'obese' may not be so labelled by a physician today (Hill, 2011, p. 73–74). Therefore, the question is, how fat *is* 'fat' in relation to fertility? The images and descriptions of different body types in classical art and literature may help us to determine this to some degree; however, the artist, writer and medical professional, indeed even individual physicians, may all still have different ideas on what should lead to someone being classified as overweight or obese.

To attempt to understand the type of body size and shape each ancient medical writer is describing we need to look closely at the exact terminology used when the link between fertility and fat is described. In the Hippocratic texts when the author describes the obesity causing fertility problems we find two words being used most frequently. The first is *παχύνω*; in *Nature of Women* 20 (L.7.340) and *Diseases of Women* 3.229 (L.8.438) the phrase *παχυνθῆ παρὰ φύσιν* (grow fat against nature) is used. In these passages, the author goes on to describe how the additional weight

presses against the uterus and blocks the passage of seed. In *Diseases of Women* 3.217 (L.8.420) the type of fat which blocks the uterus is described with the term *πιμελή* (soft fat, lard) being used. For a Hippocratic author to imagine fat blocking the uterus in this way I believe that that the person they are describing must be someone not just overweight, in our terms, but very obese.

The second and cognate word used to describe a person's body size in this way is *παχύς* (e.g. *Superf.*21 L.8.486-488; *Aph.*5.46 L.5.518; *Prorrh.*2.24 L.9.56), LSJ defines *παχύς* as meaning thick or stout. Potter's translations of the examples given use both stout and obese, for example:

γυνή ἥτις παχέα παρὰ φύσιν ἐγένετο καὶ πείρα καὶ φλέγμα-τος ἐπλήσθη, οὐ κῦσκεται  
τούτου τοῦ χρόνου.

A woman who has become stout in an unnatural way, has added fat, and has filled up  
with phlegm, does not become pregnant at that time.

(*Superf.*21 L.8.486-488; trans.Potter, 2010, p. 331)

...σμικραὶ τε γὰρ μειζόνων ἀμείνονες ξυλλαμβάνειν, λεπτὰι παχειῶν, λευκαὶ ἐρυθρῶν...

... small women conceive better than larger ones, thin better than obese...

(*Prorrh.*2.24 L.9.54; trans.Potter, 1995, p. 267)

γυνή ἥτις παχῖα παρὰ φύσιν ἐγένετο καὶ πείρα καὶ φλέγμα|τος ἐπλήσθη, οὐ κῦσκεται  
τούτου τοῦ χρόνου· ἥτις δὲ φύσει τοιαύτη ἐστί, κῦσκεται τούτων ἕνεκεν, ἢν μή τι ἄλλοτε.

If a woman seems to be prevented by fat in her uterus from conceiving, thin her down as  
much as possible and reduce her swelling by other means.

(*Superf.*29 L.8.498; trans.Potter, 2010, p. 343)

In all of the examples given above *παχύς* could easily be translated as stout or thickly-set, suggesting that the Hippocratic writer is describing a woman who is simply of a stocky build

rather than being overweight or obese, especially as *παχύνω* is being used in other descriptions. However, in *Aphorisms* we find the following passage:

ὀκόσαι παρὰ φύσιν παχεῖαι ἐοῦσαι μὴ ξυλλαμβάνουσιν ἐν γαστρὶ, ταύτησι τὸ ἐπίπλοον τὸ στόμα τῶν ὑστερέων ἀποπιέζει, καὶ, πρὶν ἢ λεπυνθῆναι, οὐ κούουσιν.

When unnaturally fat women cannot conceive, it is because the fat presses the mouth of the womb, and conception is impossible until they grow thinner.

(*Aph.5.46 L.5.518*; trans.Jones, 1931, p. 171)

As the woman here is being described as *παχύς* but the fertility problem is the fat pressing on the mouth of the uterus, it would seem that *παχύς* could also be used as signifying obesity and not just a stocky frame.

Although it is certain that the Hippocratic writers and Aristotle believed that a person's weight affected their fertility it is impossible to tell what either author believes counts as fat. Indeed as an analysis of the ancient Greek terms for 'fat' shows, it may not have been only overweight people the ancient medical writers believed suffered from infertility but also those who were naturally of a 'stocky' build.

### Environment and climate

The treatise *Airs, Waters, Places* as the title suggests explores the effect of the environment and climate has on the body. A whole range of conditions and diseases are discussed in this text and fertility is mentioned in several cases. It appears that the main purpose of this treatise was to give a Hippocratic physician who travelled from place to place in search of patients a guide as to what diseases and conditions they might find in different cities (Jouanna, 2012, p. 156). The main factors that the author describes as having an effect on the body are: the seasons of the year, winds, water, terrain and the diet of the inhabitants. Jouanna (2012, p. 155) notes that discussions of the

effect water can have on the body are limited in the Hippocratic Corpus and *Airs, Waters, Places* offers the most detailed discussion by far in all the Corpus.<sup>166</sup>

As I explored in the last section, Scythian women are said to be infertile due to their weight; however, they are more susceptible to weight gain because of where they live. The environment that the Scythians are said to inhabit has a severe climate which receives cold winds from the north and is cold for most of the year with little difference between the seasons (*AWP*.19 L.2.72). This leaves both the men and the women with moist and flabby flesh and loose bowels. As previously described all women were believed to be moister than men. However, in the Scythian women this is exacerbated because of the climate in which they live and it is this which leads to the fertility problems due to fatness and moistness that I explained in the last section.

The men's bodies also suffer from this moistness and flabbiness which means that they do not have the strength to draw a bow or throw a javelin (*AWP*.20 L.2.74). The Scythians are said to use cauterisation to help dry their bodies so they are able to perform such tasks. Although it is ultimately the incision behind the ear, as described in chapter 3, which leads to the infertility of the Scythian men the author of *Airs, Waters, Places* (21 L.2.76) explaining that the climate also has an effect. Due to the moistness and coldness of their flesh the men are said to have no desire for intercourse even before the treatment that leads to their impotence.

Pinault (1993, p. 84) has suggested that the purpose of the author of *Airs, Waters, Places* in describing the physical characters of different people lying to the east, south and north of Greece was to affirm the Greeks as the norm, by showing the other as inferior. Whilst I accept Pinault's assertion I believe that in terms of fertility the author has another purpose; the Scythians ultimately act as a cautionary tale to their readers to live according to the environment which is specific to them.

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<sup>166</sup> Jouanna uses as example the treatise *Vict.* in which, despite the author offering detailed descriptions of many foods and drink, the only mention of water is to state that 'water is cold and wet'.

It is not just the Scythians who the author of *Airs, Waters, Places* believed lived in a climate that affected their fertility. However, it is only the Scythians where male fertility is said to be affected in all other cases only female fertility is discussed. Those living in a city exposed to high winds with water that is plentiful but brackish with hot summers and cold winters are said to be prone to phlegm especially in the head. This phlegm can also affect digestion and people in these areas are said to have a flabby physique and be poor eaters and drinkers. The women are said to be generally unhealthy and subject to excess fluxes. The author tells us that women in these areas are often infertile due to diseases rather than by nature and miscarriages are common (*AWP.3* L.2.16-17).

The type of water was also said to have an effect on female fertility. Those living in areas with marshy, standing and stagnant water find themselves ruled by bile in the summer and phlegm in the winter. In these places the author tells us that women struggle to conceive and give birth and find themselves suffering from swelling. Women in these areas may also find themselves appearing to be pregnant but when it is time to give birth find their swelling disappears and has been caused by dropsy (excessive fluid) in the uterus (*AWP.7* L.2.28).

Those women living in areas which have cold winds and water which is cold and hard also find themselves infertile due to the water and they also have unhealthy menstrual blood of a quantity less than considered normal (*AWP.4* L.2.20; cf. Arist.*GA.767a32f*). The author states that although miscarriages are rare the women living in these areas have difficulty in childbirth and their milk dries up soon after giving birth so raising the child is difficult. The reason underlying all these problems is that the body is more susceptible to being hard and dry.

As well as the problems associated with climate the author of *Airs, Waters, Places* tells us the best type of climate for both health and fertility. This is in cities which face north and are exposed to hot winds with moderate temperatures throughout the year and clear water (*AWP.5* L.2.24). The women here are said to conceive easily and find childbirth easy. It is said that the climate in

these places is most like spring and spring in general is given by the Hippocratic authors as the best time to conceive (*DW*.3.218 L.8.422; cf. *Superf*.30 L.8.500).

The main effect that climate and environment has on fertility is the amount of moisture that the body retains. In the case of the Scythians and those living near marshy and stagnant water the environmental conditions lead to them having too much moisture in the body. Conversely, those living in climates with a cold wind and hard water have less moisture in the body than is healthy and this means it is hard for them to produce the required products for conception and to nurture their children.

#### Diet and regimens for fertility

The use of diet to help regulate fertility is frequently mentioned in the ancient medical texts. The texts give advice and provide observations concerning the effect of diet on all aspects of fertility and pregnancy. In relation to fertility, the ancient texts offer us detailed descriptions of the effects of food and drink and the effects of various activities. In some cases, the authors treat these factors as individual concerns whereas at other times a regimen is given taking either all or several of these factors into consideration. A good example of how a regimen for fertility is outlined in the ancient medical texts can be seen in the following passage from the Hippocratic texts *Diseases of Women* where we are informed:

ὅταν δὲ γυνὴ καλῶς ἔχειν παρὰ τὸν ἄνδρα ἰέναι· ἡ μὲν γυνὴ ἄσιτος ἔστω. ὁ δ' ἄνθρωπος ἀθώρηκτος, ψυχρῶ δὲ λελουμένος, εὐωχημένος σιτία ὀλίγα ξύμφορα. καὶ ἡ γυνὴ ἥν γυνὴ ξυλλαβοῦσα τὴν γονὴν, μὴ ἔλθῃ παρὰ τὸν ἄνδρα τοῦ πρώτου χρόνου, ἀλλ' ἡσυχάζετω· γινώσεται δέ, ἥν ὁ μὲν ἄνθρωπος φῆ ἀφιέναι, ἡ δὲ γυνὴ αὐτῆς ἡμέρης, ἔσται ὑγρὴ, καὶ ἥν γένηται ὑγρὴ, αἴθις μινύσθω μέχρις ἂν ξυλλάβῃ.

When you know a woman is in the right condition to approach her husband, let her be in the fasting state, and let him be sober, bathed in cold water, and well-nourished on a small amount of appropriate foods. If the woman knows that she has taken up the seed, let her not again approach her husband at first, but keep herself quiet; she will know this if her

husband says he has ejaculated, but she herself is dry. If her uterus returns the seed on the same day, she will be wet, and if she becomes wet, let her have intercourse again until she takes up the seed.

(*DW.3.220 L.8.424*; trans.Potter, 2012, p. 351; cf. *Superf.26 L.8.490*)

Here the author introduces several factors in relation to how both partners should prepare themselves for fruitful intercourse, including dietary factors such as the fasting of the woman and the small intake of food on the part of the man. He includes activities that should be undertaken before intercourse in the case of the male such as bathing and afterwards in the case of the woman remaining still. In this passage we are informed of some of the actions the partners should undertake directly before and after intercourse for successful procreation. However, as we will see, the remit of a fertility regimen in the ancient world went much further than this. The various aspects of fertility regimens covered advice for patients who were planning to try to conceive, those who were struggling to conceive, and for women after conception had taken place, in order that it should develop into a successful pregnancy and birth. In this regard, regimen covers every aspect of fertility and advice is given for couples who are wishing to conceive regardless of whether or not any fertility problems have been identified or even suspected.<sup>167</sup>

The regimen outlined here suggests that the man should be ‘well-nourished on a small amount of appropriate foods’ although we are not informed what constitutes an appropriate food in this case. However, in another passage from *Superfetation* (30 L.8.498-500) we are informed that a man should avoid white wine and only drink very strong (ἰσχυρότατος) wine unmixed with water, and furthermore that he should eat the most potent food and stay away from foods that do not contribute to the matter. *Regimen* (2.52 L.6.554) states that whilst wine is generally dry and hot, dark wines are the driest and white wines are the most moist. As Totelin (2007, p. 534) has acknowledged, white wine is frequently used in moistening regimens and red wine is linked with regimens which strengthen the body. Although the passage cited from *Superfetation* provides us with some more detail regarding the types of foods a man should eat to prepare for productive

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<sup>167</sup> I come back to this point in chapter 6 where I considered when a doctor might have become involved in the fertility of a couple.

intercourse, it still does not tell us exactly what foods the author had in mind. It is also clear that whilst the man should consume some wine to aid conception this should be kept to a minimum as the texts clearly state that the man should be sober when engaging in intercourse for procreation (cf. *Superf.*30 L.8.498). The reason why, however, is not given.

In the passage cited above from *Diseases of Women* we are told that the woman should be in a fasting state when she is about to engage in intercourse. However, the Hippocratic texts do suggest foods that should be eaten by a woman should she wish to conceive, for example:

τὰς δὲ γυναῖκας χρὴ διαιτᾶσθαι τῷ ξηροτέρῳ τῶν τρόπων· καὶ γὰρ τὰ σιτία τὰ ξηρὰ ἐπιτηδειότερα πρὸς τὴν μαλθακότητα τῶν σαρκῶν, καὶ τὰ πόματα ἀκρητέστερα ἀμείνω πρὸς τὰς ὑστέρας καὶ τὰς κυοτροφίας.

Women should use a regimen of a rather dry character, for food that is dry is more adapted to the softness of their flesh, and less diluted drinks are better for the womb and for pregnancy.

(*Salubr.*6 L.6.82; trans.Jones, 1931, p. 53)

Here it is suggested that for pregnancy, as well as health, a woman should have foods which are dry and consume less diluted drinks, because these types of food and drink fit better with ‘the softness of their flesh’. Women are described by the Hippocratic authors as having more sponge-like flesh than men have, which soaks up more moisture from food (*DW.*1.1 L.8.12.6–22), ultimately leading to a woman needing to menstruate in order to rid herself of the excess fluid. An over-moist womb is linked to infertility (*AWP.*21 L.2.76) and therefore a dry diet to help fertility, as well as fasting prior to intercourse, fits in with this wider understanding of a woman’s body.

It should also be noted that the food and drink recommended to aid conception do not always appear to be specifically for those having problems conceiving. Instead, they appear to be part of a regimen to promote fertility in general. There is a noticeable absence of advice on food and





drink for those struggling to conceive. However, I think we can assume that couples struggling to conceive would be offered this advice, unless they were diagnosed with a particular condition that would mean those types of food and drink were not beneficial.

All this said, we do find food and drink associated with the treatment of particular diseases linked to infertility. One example of this can be found in *Nature of Women* (4 L.7.316) where the author suggests treatment including fumigation of the uterus and the application of sweet smells under her nostrils, and then advises that the woman should eat foods that are cold, and drink milk and diluted white wine. Also, as I described in chapter 3, in *Diseases of Women* (3.217 L.8.420; cf. *Superf.*29 L.8.496) in the treatment for a closure or movement of the mouth of the uterus, after treatment involving vapour baths and pessaries, advice is offered on diet. The author suggests that the woman should drink sweet white wine boiled down with finely ground pinewood, pounded celery seed, the seed of Ethiopian cumin, and frankincense when she is in a fasting state. It is also suggested she should eat well-steamed puppy fat with octopus boiled in sweet wine and boiled cabbage. Helen King (1998, p. 25) has highlighted that *Regimen* (2.46 L.6.546) states that dog flesh dries the body, but the flesh of puppies moistens and purges the body. Octopus is also said to have moistening properties and can act as a laxative (*Vict.*2.46 L.6.546) and celery acts as a diuretic (*Vict.*2.54 L.6.558; see Totelin, 2009, p. 198). Therefore, it would appear that this recipe was designed to add moisture to the body. Clearly, diet, as we may expect, does have a role to play in the treatment of diseases associated with infertility as well as preparing the body for conception prior to intercourse.

There is also advice given for general treatments for those who are struggling to conceive. Below are two examples:

ἦν δὲ διὰ παλαιοῦ μὴ κύσκηται, τῶν καταμηνίων ἐμφαινομένων, ὁκόταν ἢ τριταίη ἢ τεταρταίη, στυπηρίην λείην τρίψας, διεῖς μύρω, εἰρίω ἀνασπογγίζων, προστίθει· καὶ ἐχέτω ἡμέρας τρεῖς. τῇ δὲ τρίτῃ ῥάκος ξύσας, βοδὸς ψολὴν αὐτὴν διεῖς ἐλαίῳ, τὸ ξύσμα ἀναδεύσας πρόσθε· καὶ ἐχέτω ἐπὶ ἡμέρας τρεῖς. τῇ δ' ἑτέρῃ ἐξελέσθω καὶ τῷ ἀνδρὶ συνέστω.

If a woman does not become pregnant for a long time, although her menses are appearing, on the third or fourth day after they occur grind alum fine, dissolve it in an unguent, sponge it up with a piece of wool, and insert it as a suppository: have the patient retain it for three days. On the third day, tear up a piece of cloth, mix dried bull's gall in olive oil, soak the cloth with this, and apply: have the patient retain it for three days. On the day after that have her remove the suppository and have intercourse with her husband. (*Nat.Mul.*53 L.7.394; trans.Potter, 2012, p. 285; cf. *DW.*1.19 L.8.58)

ἤν γυνή μὴ κυίσκηται, καθαρτήριον· ταύρου οὔρον ξυλλέλας ὅσον τρεῖς κοτύλας, ἔπειτα λαβὼν ἀρτεμισίην ποίην ἢ παρθένιον ἢ ἀδιάντον καὶ δάφνην χλωρὴν καὶ κέδρου πρίσματα, κόψας λεῖα ἐν ὀλμῳ. εἴτα ὀρύζας βόθρον, ἐγκαύσας ἄνθρακος, καὶ ἐπιθεῖς χύτραν, ἔγχεον τὸ οὔρον τοῦ ταύρου, καὶ ἔμβαλε τὰ ἐγκεκομμένα ἐν τῷ ὀλμῳ· ἔπειτα περιθεῖς δίφρον, ἐπίθες τῆς ἀρτεμισίης ποίης, ἢ ὕσσωπον, ἢ ὀρίγανον· εἴτα ἐπικαθίσας τὴν γυναῖκα, πυρίησον ἕως ἂν ἰδρώσῃ, λούσασθαι θερμῷ· ἐς δὲ τὸ λουτρὸν ἐμβαλεῖν τὴν ἀρτεμισίην καὶ δάφνην· εἴτα προσθετὸν αὐτῇ ποιῆσαι· ἢ ἀρτεμισίην ποίην ἢ βολβίον ἐν οἴνῳ λευκῷ τρίψας, εἰρίῳ ἐνελίξας, προστιθέσθω. ταῦτα ποιέειν ἐφ' ἡμέρας τρεῖς· εἴτα κοιμάσθω παρὰ τῷ ἀνδρί.

As cleaning agent, if a woman fails to become pregnant: collect three cotyles of bull's urine; then take artemisia herb, feverfew, or maidenhair together with green laurel and cedar sawdust, and grind this fine in a mortar. Next dig out a pit, burn coals in it, and set a pot on it into which you pour the bull's urine and the things ground in the mortar. Then place a stool over this, sprinkle on artemisia herb, hyssop, or marjoram, and next set the woman over this and continue the vapour bath until she sweats. Once she is sweating, bathe her in hot water, adding artemisia and laurel to the bath. Then make a suppository for her: grind either artemisia herb or a bulb in white wine, wrap it with a piece of wool, and have her apply it. Do this for three days: then have her sleep with her husband. (*Nat.Mul.*107.6 L.7.424; trans.Potter, 2012, p. 317)

In these examples, the author is recommending the use of pessaries and vapour baths with the general intention to increase the woman's fertility but without stating their exact purpose. In both cases, we are advised that the woman is trying to conceive but is finding she is unable to do so, but there is no mention of a particular disease or condition being diagnosed.

Some of the ingredients used in these recipes can also be found in the remedies which are suggested for particular diseases and conditions associated with fertility. For example, artemisia is used in recipes to induce menstruation (e.g. *Nat.Mul.*109 L.7.424); laurel features in recipes for both displacement of the uterus (*Nat.Mul.*6 L.7.320) and for a gaping of its mouth (*DW.*3.241 L.8.454). Similarly, alum and bull's gall are used together as a warming agent for displacement (*Loc.Hom.*47 L.6.346) and bull's gall is used in recipes for a membrane covering the uterus (*DW.*3.223 L.8.432), as a softening agent (*DW.*3.235 L.8.450) and for inflammation of the uterus (*Nat.Mul.*109 L.7.428). The use of these types of ingredients suggests that the Hippocratic authors may have been targeting the most common problems associated with infertility through these general recipes.

There is something else that is noticeable about these recipes given to aid those struggling to conceive: many of the ingredients heavily associated with fertility in the Hippocratic texts are absent from these general fertility recipes. Totelin identifies and explains the use of a wide variety of ingredients linked to fertility in her article 'Sex and vegetables in the Hippocratic gynaecological treatises' (2007) and in chapter 5 of her book *Hippocratic recipes: oral and written transmission of pharmacological knowledge in Fifth- and Fourth-century Greece* (2009). Among the key ingredients which she identifies as being linked to treating infertility and promoting fertility are animal genitals (e.g. stag's penis, beaver testicles and the symbolic use of stag horn). Other ingredients she identifies as heavily associated with fertility recipes include barley, squirting cucumber and rose oil. She also highlights the use of the gourd in treatments that in part prepare the woman for the 'real and fruitful intercourse with her husband' (2009, p. 219). I agree with Totelin's analysis of the use of the different ingredients in the Hippocratic

gynaecological recipes, but there is an important point to make here: namely that none of these key ingredients linked to fertility feature in the passages given above for generally increasing a woman's fertility. As I have highlighted, many of the ingredients given in the two passages on treatments for those struggling to conceive can also be found in treatments for specific diseases associated with infertility, making it even more noteworthy that ingredients which are frequently linked to fertility seem curiously absent. One possible reason for this is that, when prescribing recipes for general fertility the Hippocratic authors maybe looking for less harsh ingredients than when they are targeting specific conditions. However, there does not seem to be any particular pattern to the choice of ingredients.

There is another area of fertility where diet was important, and that is pregnancy. As the mother will provide the nutriment for her child throughout gestation, it is of course important that she herself be well nourished. In *Diseases of Women* 1.25 (L.8.66), when describing the causes of miscarriage, the author mentions a lack of nourishment from food as a possible cause. However, in the Hippocratic texts, the relationship between food and pregnancy goes beyond nourishment alone and eating the wrong types of foods is linked to causing miscarriage. In *Diseases of Women* (1.25 L.8.68) the author suggests that miscarriage can occur if a woman eats or drinks something which upsets the stomach or is pungent, bitter or contrary to the woman's usual habits, especially in the early stages of pregnancy. It is also stated that the cause of the miscarriage in this case is when the womb 'perceives when a diarrhetic flux comes down from the belly' (trans.Hanson, 1975, p. 580).<sup>168</sup>

Although certain types of activity are suggested prior to intercourse, like the advice on diet, activity after intercourse is also important.<sup>169</sup> In the passage given at the beginning of this section (p.133-134) from *Diseases of Women* 220 (L.8.424, cf. *Superf.*26 L.8.490), the advice given is that the woman should remain still after intercourse so that she is more likely to retain the seed.

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<sup>168</sup> In *DW*.1.21 L.8.60 it is noted that some women conceive with ease but miscarry in the third or fourth month of pregnancy despite there being neither physical injury nor having eaten the wrong kind of food.

<sup>169</sup> Aristotle, whilst not saying that activity and exercise affects fertility, does note that in tribes where the women work hard they have an easier time in both pregnancy and labour than in societies where women live a more sedate life (*GA*.775a33-775b5).

This is in part because conception does not occur instantaneously in the Hippocratic theories but is a process lasting several days, and until conception is complete the seed is particularly vulnerable. Indeed, according to the Hippocratic authors, a woman can choose to expel the seed through activity. This is the case in *On the Nature of the Child* (8 L.7.490) where the author describes how he instructed a woman, who had felt herself retain the seed, to jump up in the air whilst kicking her heels against her buttocks until the seed fell out.<sup>170</sup> In this passage, the onus is on the woman to realise whether she has taken up the seed, which can be detected through dryness after intercourse, but also to note whether this is later released from her body. This also emphasises just how easy the Hippocratic writers believed it was for the seed to leave the body after intercourse.

In addition to regimens surrounding intercourse, the timing of intercourse for conception was also essential. In general, the ancient medical writers concur that the best time for productive intercourse is towards the end of the menstrual cycle (e.g. *Nat.Puer.*15 L.7.494). Aristotle explains that the flow of the menstrual blood during menstruation will wash away the seed, whereas just after menstruation there will be enough material left to shape the foetus (*GA.*727b10-14; 23-25).<sup>171</sup>

The types of activity a person should undertake before intercourse are primarily aimed at increasing fertility and ensuring the semen and menstrual blood are present in the right quantities. The timing of intercourse is also aimed at ensuring that the menstrual blood is present and that there will be enough for conception to occur, but also to give the seed the best chance of being retained in the uterus. Similarly, the regimen described for women after intercourse is designed to ensure that the seed is retained in the uterus and that this will then have time to develop into a successful pregnancy. There does seem to be a sense in the ancient medical texts that a successful conception is actually quite hard to achieve. Not only does the reproductive fluids in both men and women need to be as fertile as possible, achieved through diet and regimen, but once

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<sup>170</sup> See p.42 for the full details of this source and what the Hippocratic writer claims to see.

<sup>171</sup> Aristotle does then note that some women do conceive without menstruation occurring, as they only have the same amount of menstrual fluid as is left over in women who do menstruate, and that some women conceive during menstruation as in these cases the uterus closes immediately after they have menstruated.

intercourse has occurred, conception still needs to be carefully managed in order to be successful. There is no sense in the regimens outlined in this section, with the exception of those for women who are not menstruating, that this is advice being offered to those with fertility issues; instead, this is general advice to increase the chances of conception occurring.

### Infertility and health

Having outlined the various causes and treatments for infertility in the ancient texts, and before moving onto a more detailed analysis of the response to infertility in ancient Greece, I will consider whether infertility was classed as a symptom or a disease in its own right and whether someone could be considered healthy and infertile.

Whether infertility was seen by the Hippocratic authors as a symptom of disease or a disease in its own right is a question that is practically impossible to answer with any degree of certainty. One of the main reasons for this is that trying to align our modern concept of ‘diseases’ and ‘symptoms’ to bear any relation to those in the Hippocratic Corpus is fraught with difficulty. As Brooke Holmes (2010, p. 11) has noted the word σύμπτωμα, ‘symptom,’ does not appear in any of the fifth or fourth century BC medical texts, nor is there any word that ‘symptom’ could be said to supersede when it does appear in medical literature in the Hellenistic and imperial-age texts.<sup>172</sup> However, this is not to say that the Hippocratic authors had no concept of a ‘symptom’ in any form. As Holmes (2010, p.12) states, while there may not be a specific term for ‘symptom’, instead the medical writers often simply use demonstrative pronouns ‘to refer to bodily phenomena from which they build inferences’. These inferences turned what the Hippocratics could see from the outside into knowledge about the unseen inside of the body. Holmes (2010, p. 2) describes a symptom in its basic form as ‘a disruption – without obvious cause and often, though not always, painful – either to the experience of self or to the outward presentation of self’.

In this chapter I have shown evidence that the Hippocratic authors had a concept of what today would be called a symptom; for example, if a woman stopped menstruation it would be a sign of

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<sup>172</sup> The word appears once in the Hippocratic Corpus in *Decent.6. L.9.234* but this text is dated to the Hellenistic period (Holmes, 2010, p. 11 n.39).

a potential problem with the mouth of her uterus. However, it is important to be aware that these are signs but not necessarily symptoms to a Hippocratic author. Infertility in the Hippocratic Corpus is mostly the result or symptom of another disease. However, in the cases of ‘natural’ infertility, as described in *Prorrhetic* (2.24 L.9.54), it is possible to see infertility as a condition in its own right.

A final question needs to be addressed here, and that is whether it was believed that a woman could be infertile and healthy. King (2005, p. 157) has noted in the gynaecological treatise of the Hippocratic Corpus that it does ‘seem possible to be healthy while infertile: to be healthy as a person, while having an unhealthy womb’.

In the Hippocratic Corpus there are multiple examples of women being described as ‘cured’ while the author also states that they will remain infertile. For example, in a case of ulceration of the uterus which is accompanied with fever and inflammation it is stated that ‘[i]n most cases the person is cured but becomes infertile’ (*DW*.1.63.46 L.8.130.18; own translation; cf. *DW*.1.2.64-65 L.8.20.3-4; *DW*.1.8.42-43 L.8.38.4-5).<sup>173</sup> Similarly, in the case of the retention of the menses it is said that ‘women run the risk of dying, and even if she would survive, she will be infertile’ (*DW*.1.3.23-24 L.8.24.9-10; own translation). King (2005, p. 157) has also suggested that there is a separation between the womb and the woman in the Hippocratic Corpus which is highlighted by the phrase ‘the health of the body and of the womb’ (*DW*.1.60 L.8.122; cf. *Superf*.29 L.8.494). The evidence does seem to suggest that this is the case and that whilst an unhealthy woman may be infertile, this does not mean that an infertile woman is deemed as suffering from a disease.

### Conclusion

This chapter has shown that for the ancient medical writers discussing infertility a person’s body type and physical appearance could offer insights into their ability to produce a child. In particular, a person’s weight was thought to have a direct impact on their fertility by either providing a

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<sup>173</sup> ὥς δὲ τὰ πολλὰ ἐκ τῆς νόσου ταύτης ἐκφεύγουσι, καὶ ἄτοκοι γίνονται



physical obstacle for the seed or altering the environment of the uterus so that conception could not occur.

The Hippocratic authors also placed great importance on the effect that diet and environment could have on fertility and provided regimens to follow both before and after intercourse. Although some regimens targeted specific diseases and conditions associated with infertility there were also general regimens to increase the chance of productive intercourse without any suggestion of infertility.

Although, as this chapter and the last has shown, many causes of infertility are linked to other diseases and conditions it would seem that the Hippocratic authors did believe that someone could be infertile but also healthy.

## Part 2.

Infertility and its relationship to blame  
and responsibility.

## Chapter 5.

### ‘The men perish, the women are barren...’ Comparisons of male and female infertility

τοῖσιν δ’ οὐρανόθεν μέγ’ ἐπήγαγε πῆμα Κρονίων,

λιμὸν ὁμοῦ καὶ λοιμόν, ἀποφθινύθουσι δὲ λαοί·

οὐδὲ γυναῖκες τίκτουσιν, μινύθουσι δὲ οἴκοι

Ζηνὸς φραδμοσύνησιν Ὀλυμπίου...

(Hes.*Op.*242-245)

In the first four chapters of this thesis, I have set out the numerous causes of infertility in both male and female patients given in the ancient texts. In the second half of this thesis, I will analyse in detail how the ancient medical writers themselves perceived infertility and how modern scholarship has interpreted the evidence up to now. In addition, I will provide my own analysis of infertility in the ancient medical texts and beyond, focusing on the relationship between responsibility, blame and infertility. In this chapter, I will focus on which partner was believed to be responsible for infertility in theory; that is to say, from which partner the ancient medical writers believed infertility to derive. As I have shown, both Aristotle and the Hippocratic authors do accept that infertility could stem from either partner, or indeed a combination of the two, and whilst discussions of male infertility are relatively rare, they are nevertheless present.

In this chapter, I shall first explore how male infertility is described in modern scholarship not only in the classical world but also in the modern sociology of infertility. I shall then explore the disparity between the number of discussions in ancient Greek literature of infertility in females, in relation to those on infertility stemming from the male; this will include an examination of how wide this disparity actually is, once certain factors are taken into consideration. I will then turn my attention to the various differences between male and female infertility in the Hippocratic Corpus compared to the biological works of Aristotle, with a particular focus on the effects that varying theories of conception had on how infertility was perceived. I will also compare how the

causes of infertility given by the ancient writers differ between the genders and what this may tell us about how infertility may differ in theory and practice in the ancient world.

Before moving on to these aspects it is worth saying a few words about the title and opening quotation of this chapter. The quotation given is drawn not from the ancient medical texts but from Hesiod. In *Works and Days* (242-245), Hesiod describes how a whole city may suffer because of the sins of one man. When we consider two translations of this passage and particularly of the phrase οὐδὲ γυναῖκες τίκτουσιν, we can see a distinction that will prove to be important for the rest of the discussions in this chapter:

- 1) The son of Cronos from heaven inflicts upon the people great misery, famine and plague together. The men perish, the women are barren and their homes become few through the cunning of Olympian Zeus (Longrigg, 1998, p. 9).
- 2) Upon them [the city], Cronus' son brings forth woe from the sky, famine together with pestilence, and the people die away; the women do not give birth, and the households are diminished by the plans of Olympian Zeus (Most, 2007, p. 107).

As we can see the phrase οὐδὲ γυναῖκες τίκτουσιν<sup>174</sup> is translated by Longrigg as 'the women are barren'. In the second and more recent translation, this phrase is translated as 'the women do not give birth'. On one level, we could say that there is little difference in the two translations since in both women are said not to be able to produce a live child. However, in Longrigg's translation the infertility very much lies with the female partner; it is her alone who is incapable of producing a child. Having translated the passage in this way, Longrigg (1998, p. 191) suggests that this is the earliest example of diseases being gendered. At first glance, this would seem to be the case: the men suffer the ultimate fate, succumbing to disease and death, and the women suffer their worst fate, infertility. Taking this conclusion into consideration the difference in the second translation is striking, as the statement 'the women do not give birth' has a potentially different

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<sup>174</sup> τίκτω has several possible definitions but is generally translated as 'bearing a child'. It can be used to refer to either sex but is more frequently used in relation to women (Leitao, 2014, p. 282). For a detailed discussion of the use of the word τίκτω in relation to infertility see chapter 2.

meaning. In this translation, the infertility could stem from either partner but the lack of fertility is still shown in the woman.

Arthur Greil (1991b, p. 65), discussing the modern sociology of infertility, has stated that '[t]he simultaneously biological, personal and social drama of infertility is played out in the woman's body. Regardless of which partner in an infertile couple is ultimately discovered to have the biological "problem", it is the woman who fails to become pregnant'. Similarly, Liberty Barnes (2014, p. 160) writes that '[w]hen a heterosexual couple experience childlessness, it is the woman's body that is visibly and conspicuously not pregnant, stigmatizing *her* as infertile. Infertile men enjoy a good amount of invisibility'. The idea that the proof of the fertility of either partner is shown in the female is important to keep in mind in any discussion of the gendering of infertility, and the distinction between female infertility and the female body showing the results of a fertile partnership will be explored throughout this section and the rest of this thesis.

#### The prevalence and understanding of male infertility

When modern physicians are looking at the root causes of infertility in a couple today they are faced with three main possibilities. The infertility could stem from the male or female partner alone, with the other partner being fertile. Alternatively, both partners in the couple could be facing identifiable fertility issues or the infertility could remain unexplained with neither partner having detectable fertility issues. As stated in chapter 1, today it is believed that in cases of infertility the male partner's reproductive capacity is diminished in 50% of couples struggling to conceive.

Regardless of the statistics in modern society, and how long male-factor infertility has been understood as a problem by the medical profession, infertility today is still viewed largely as a 'woman's problem'. In recent years, there have been attempts to try to change this viewpoint with some of the most obvious examples of this in the popular press. In May 2013 *The American Association Of Clinical Endocrinologists* released a press release with the title 'Men: Sometimes it's not her, it's YOU'. Several press outlets ran the story with this headline, addressed to men reminding or informing them that infertility was something that could originate in their bodies.



However, by August 2013 another version of this headline appeared. An article in *The Washington Post* ran with the headline ‘Not pregnant: Sometimes it’s the man’ (Hambleton, 2013). Although the article explains male infertility, the headline is aimed at women, and seeks to inform them about potential infertility in their partner.<sup>175</sup> This is just one of the many examples that can be found reminding the public that infertility is potentially a problem for both sexes.

The focus on both female infertility and to some extent the placing of male infertility into the female domain, as demonstrated in the example from *The Washington Post* above, extends into scholarship on the modern sociology of fertility. Until recently the scholarship of this field has focused either on the female partner or the couple as a whole, regardless of which partner has been diagnosed as infertile. In 1983, Naomi Pfeffer and Anne Woollett published the groundbreaking book *The Experience of Infertility*. This was the first major study to explore the psychological effects of infertility that took the first successful use of IVF in 1978 into consideration. However, they made the position of male infertility in these studies clear, stating:

In speaking predominantly to women we describe the experience from a woman’s point of view because, although in at least one-third of cases male factors are heavily implicated, infertility is mostly seen as a woman’s problem. Women are assumed to be more committed to wanting children and so infertility is seen as more of an issue for them. This is an assumption that we wish to question. But while this is how men’s and women’s motivation to have children is perceived, infertility is a greater life crisis for women than for men. This may make women more ready to talk about it. Also, it is women who by and large undergo the infertility investigation even when the problem lies with the man. So it is largely women for whom infertility becomes an issue and so we have concentrated on their experience.

(Woollett & Pfeffer, 1983, p. 3)

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<sup>175</sup> There seems to be no obvious reason as to why this article addresses women about male infertility rather than men directly. The article appears on *The Washington Post* website under the Health & Science section (rather than a section which tends to be primarily aimed at women such as the Lifestyle section) and the gender demographic for washingtonpost.com suggest that the readership is 56% male compared to 46% female (Washington Post Media, 2013, p. 23).





Here the presumption is that infertility has more of an effect on women and the authors therefore chose to question only women about their experience of infertility. In the 1990s and 2000s there were some studies on the effect of male infertility; however, often these would ultimately focus on the female experience of infertility. For example, Marcia Inhorn in her book *Infertility and Patriarchy* (1996, cf. 1994, 2002) explores the social effect of infertility in modern-day Egypt. Although Inhorn's study looked at male infertility, the main focus was on the effect that male infertility has on women and how, despite the man being infertile medically, in social terms the woman has been seen as the partner with the problem. The only study which I have found from the 1990s which looks specifically at the male experience of infertility is Mary-Claire Mason's book *Male infertility – men talking* (1993). This book collects first-hand stories of male infertility as a series of interviews but does not look deeper into the sociological aspects of male infertility. In Arthur Greil's review of the literature exploring infertility (1997), he suggested that we know more about female infertility than male due to the methodology employed by researchers. Greil (1997, p. 1699) states that approaching infertility as a medical concern has limited the subjects of the studies: not only do we not find out about those people who do not seek treatment but also, as the woman is usually the partner who receives treatment, men are often excluded here, too.

In the last ten years, however, the scope of studies exploring infertility has widened and male infertility is starting to be examined in more detail. In 2010 Greil published another literature review and noted that there had been an increased recognition of the importance of studying couples and learning more about male-factor infertility (2010, p. 153). However, it was only with Liberty Barnes' recent book *Conceiving masculinity: male infertility, medicine and identity* (2014) that the first detailed study of not only the psychology, but the sociology of male infertility was published.

If we need reminding today that infertility is not just a female condition, then the question of whether we are seeing something similar in the ancient world is raised. Certainly, the view of much of modern scholarship appears to be that the ancient medical writers needed informing, let alone reminding, that infertility could stem from the male partner. Simon Byl (1990, p. 309) has described the ancient Greeks as believing that '[i]nfertility was the disease of women, par

excellence'.<sup>176</sup> Cole (2004, p. 148) simply states '[r]esponsibility for sterility and for failure in childbirth was usually attributed to the female'. Similarly Sue Blundell (1995, p. 105) has suggested that '[t]here is little recognition on the part of the medical writers that failure to conceive may be caused by infertility of the male partner', although she does concede that in the Hippocratic Corpus males wanting to have a child are given advice on diet and health.

Although these views are now between ten and twenty years old, there has been little scholarship to challenge these strong statements. Whilst these views may not have been repeated outright in recent years, it would seem that the idea of infertility being thought of as a female preserve in the ancient medical texts has been widely accepted. In general, whenever scholars do acknowledge the presence of male infertility in the ancient medical texts it is often as an aside in a footnote, simply stating that male infertility is mentioned but in little detail in the ancient texts. One of the most recent examples of this, and possibly most significant as one of the few instances of scholarship which focuses on infertility rather than more general fertility, can be found in Rebecca Flemming's 2013 article. In this article, Flemming suggests that there is some consensus between the Hippocratic texts and the biological works of Aristotle regarding male infertility. This consensus resides in the '...passing over the recognized possibility of male responsibility for the lack of procreative success in practice. The theory may be mentioned, but without any remedial engagement' (2013, p. 571).<sup>177</sup> Flemming's approach to male infertility is somewhat typical. Male infertility is identified in the ancient texts by scholars but at worst is dismissed and at best gains a footnote with limited discussion of the nature of male infertility.

There is one very recent exception to this focus on female fertility and that is Michaela Senkova's (2015) article 'Male infertility in Classical Greece: some observations'. Senkova makes the excellent point that male infertility was recognised in both the ancient medical texts and beyond. However, even in this article the evidence for male infertility in the Hippocratic Corpus is underestimated. Senkova suggests that the only two references to male reproductive problems in

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<sup>176</sup> In the original French 'La stérilité était la maladie de la femme, par excellence'.

<sup>177</sup> This distinction between infertility in theory and practice is an important point, which will be discussed in detail in both this chapter and the next.

the corpus are the Scythians in *Airs, Waters, Places* (22 L.2.76.13-82.5) and *Aphorism* 5.63 (L.4.556.3-7).<sup>178</sup> However, as I have shown in previous chapters, there is more evidence for male infertility than either Senkova or perhaps Flemming suggests.<sup>179</sup> There is only one other example in scholarship which accepts that male infertility was believed to be a significant factor in ancient Greece. Jacques Jouanna (1999, p. 174) has stated that not only did the Hippocratic authors recognise that the male could be the cause of infertility in a couple,<sup>180</sup> but that '[c]ontrary to an opinion that is too often repeated, the Greeks of the classical period did not systematically assign blame for sterility to women'.<sup>181</sup>

The reasons for this approach by scholars to male infertility in the ancient medical texts is difficult to determine. It can be said, however, that this approach does follow the female-centred approach to modern infertility by sociologists described above. Clues to this approach can be found in the history of scholarship on both fertility and the female body in antiquity, not helped by the lack of studies in which infertility, as opposed to fertility or the wider views of the female body, is the primary concern. This is no guarantee of the inclusion of male infertility as we see in Flemming (2013), however. What we do have is a range of scholarship on infertility which, for the most part, is made up of works in which the focus is on the female body and fertility, with infertility forming a secondary discussion. As stated in the introduction to this thesis, ancient gynaecology is now a well-established area of scholarship, although it is still relatively new and has primarily focused on the importance of menstruation and fertility to a woman's health in ancient thought.

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<sup>178</sup> Flemming (2013, p. 571 n.23) too cites only these two examples for male infertility. This aphorism describes semen not being able to move through the male body correctly and follows on from another aphorism describing women struggling to conceive due to the environment of the uterus (see chapter 3 for detailed discussion on these aphorisms).

<sup>179</sup> The only other mention of male infertility in Flemming's article concerns the regimens that the male partner could undertake to aid with conception, e.g. being sober during intercourse (Flemming, 2013, p. 575). These regimens have already been mentioned in previous chapters and their significance for what the ancient authors thought about male fertility will be discussed later in this chapter.

<sup>180</sup> Jouanna further states that *Aph.5.63 L.4.556.3-7* puts male infertility on par with female infertility.

<sup>181</sup> The use of the word 'blame' in DeBevoise's translation of Jouanna's work appears only to represent the idea of infertility originating from the female partner rather than a belief that a woman's action had led to her infertility. In the original French Jouanna states 'Contrairement à une opinion trop souvent répétée, les Grecs de l'époque classique ne rejetaient pas systématiquement l'accusation de stérilité sur les femmes' (1992, p. 250). Chapter 7 will explore the relationship between blame and infertility and the different meanings of blame in detail.

As the work on fertility in the ancient medical texts has gone hand- in- hand with the development of scholarship on women in antiquity, which had been woefully neglected up until forty years ago, male infertility seems to have fallen between the cracks. However, it could also be argued that the focus on female fertility in modern scholarship has helped to perpetuate a myth that male fertility was not discussed in the ancient texts. The interest in fertility in these texts developed in conjunction with the increased attention to women in the ancient world and therefore studies on fertility have naturally focused on the female body. This meant that male infertility did not have a place within many studies and, as the scholarship on female fertility increased, discussions of male infertility in the ancient texts, which are already outnumbered by those discussing female fertility, were increasingly pushed to the side.

Although the idea that male infertility was believed to be a factor in ancient Greece is gaining recognition amongst scholars, in a similar way to the reminders of male infertility in the modern newspaper articles, further studies are needed to fully appreciate the role that male reproductive problems played in the ancient understanding of infertility.

The disparity between the number of discussions of female-factor infertility compared to those of the male

One of the most often cited claims put forward by modern scholars as proof of a strong link between infertility and the female is the frequency of discussions regarding female fertility in the ancient texts whether in their own right or in comparison to those involving male fertility. Ann Hanson (1990, p. 327) has suggested that a Greek man would have expected intercourse to result in a child 'unless the reproductive apparatus of his partner was defective' which can be evidenced in part from 'the many therapies in the corpus which attempt to cure sterility in women'. This view is further bolstered by the number of treatises in the Hippocratic Corpus focusing on the female reproductive system and its workings. As outlined in the introduction there are eleven treatises which can be considered to be either devoted to women's diseases or to the foetus and childbirth, and further discussions on these topics can be found in many of the other treatises. Simon Byl (1990, p. 312) has suggested that, in keeping with the wider masculine ideology of the

period, it is women who are usually judged as responsible for infertility in the couple and this is why so many of the Hippocratic texts are devoted to the study of infertility.<sup>182</sup>

Fertility and the production of a child were immensely important to the ancient Greeks and, as I shall discuss, the ancient medical writers did have a gendered view of the causes of disease. I do not believe, however, that the high number of discussions surrounding female fertility and the female reproductive system should be seen automatically as reflecting the belief that women alone were held responsible for all infertility problems. There are several other factors to consider when thinking of the difference in the division between discussions on male and female fertility.

If we put to one side for a moment the question of whether the ancient medical writers did believe that female infertility was much more likely than male infertility, the other possible reasons for the ancient medical texts seemingly exploring female infertility in much more detail than male fertility can be split into two main categories. The first set of reasons relate to what we should actually count a discussion on infertility, and the second to the role of the male and female partners within the production of a child. In chapter 3, I discussed how the Hippocratic authors believed that regular menstruation and the health of the uterus went beyond an interest in reproduction and were an indication of the woman's more general health. Some examples of this include the effects that uterine displacement was believed to have on the body. It was noteworthy that infertility was rarely mentioned in cases where the uterus moved in an upward direction without a movement of the uterine mouth. As the consequences of uterine displacement described by the ancient authors were often dramatic, particularly in the Hippocratic Corpus where in extreme cases the result was the death of the woman, either due to retention of the menses (e.g. *DW.1.2 L.8.14-22*) or suffocation (e.g. *DW.1.7 L.8.34*), it would seem that infertility was not a major concern under these circumstances.

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<sup>182</sup> C'est cette idéologie masculine qui explique que ce soit la femme qui sera jugée presque toujours responsable de la stérilité du couple et que tant de textes hippocratiques seront consacrés à l'étude de sa stérilité.

Furthermore, discussions relating to the female reproductive system are not always linked to fertility or infertility. In the Hippocratic treatise *Generation* (4 L.7.467.8-16) the author explains that ‘The following point is also true for women: if they have intercourse with men they are more likely to be healthy, if not, then less so’ (*Gen.4* L.7.476.8-10; trans. Potter, 2012, p. 15).<sup>183</sup> The author explains that the benefit of intercourse is two-fold; firstly, that the uterus is made moist through intercourse, which reduces the risk of the uterus undergoing strong contractions, which can happen if it is too dry. Secondly, he states that intercourse allows the menses to pass more easily due to the warming and moistening of the blood, and a lack of menstruation can cause problems for the woman’s health. This passage is interesting as there is no mention of pregnancy being the ultimate aim to aid the health of the woman, as we find in other passages (e.g. *DW.3.247* L.8.460; *DW.2.131* L.8.278; *DW.2.128* L.8.274). Here intercourse alone has a beneficial effect on the female body.<sup>184</sup> This passage involves intercourse and the reproductive system but does not mention fertility.

In chapter 3 I also stated that because of the ancient understanding of how the female body worked the focus of many discussions relating to the female reproductive system in the ancient texts is not infertility, nor in many cases even fertility more generally, and further highlighted that modern scholars do not always make this distinction. As a direct result of this ancient understanding of the female body, we find that many of the discussions relating to the female reproductive system are more concerned with health than fertility and this needs to be taken into consideration when comparing the number of descriptions of female-factor infertility compared to those in of the male. It is worth noting that it is not just the female reproductive system which is mentioned in the Hippocratic Corpus in diseases unrelated to fertility the male reproductive system is as well. Some examples of this include the swelling of testicles which is mentioned in cases of vomiting and fever (*Coac.559* L.5.710; cf. *Iudic.44* L.9292) or epilepsy (*Epid.2.5.11* L.5.130). The testicles

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<sup>183</sup> ἔχει δὲ καὶ τόδε οὕτω τῇσι γυναιξίν· ἥν μὲν μίσγωνται ἀνδράσι, μᾶλλον ὑγιαίνουσιν· ἥν δὲ μὴ, ἥσσον.

<sup>184</sup> There is also no mention of whether either partner needs to be fertile in order to benefit from intercourse. It is possible that this advice could be offered to a post-menopausal woman who could presumably benefit from the additional moisture in her body. The question also arises whether the male partner needs to provide fertile semen in order for the woman’s health to improve.

are often mentioned in relation to the coughs, which fits into the wider Hippocratic theory of a natural sympathy between the chest and the genitals (e.g. *Epid.*2.3.9 L.5.130; cf. *Hum.*10 L.5.490). In *Coan Prognoses* (484 L.5.694; cf. *Prorrh.*2.9 L.9.28) it is simply stated that the retraction of the testicles and penis is a bad sign. The examples of the male reproductive system being mentioned in the context of non-fertility related diseases are, of course, few in comparison to those of the female reproductive system but I feel it is important to be aware they do exist.

In addition to those discussions relating to the female reproductive system which are not focused on infertility we find other examples in which infertility is mentioned as part of a wider discussion or even features as an aside. An example of this can be found in the case of the Scythians in the text *Airs, Waters, Places* (21 L.2.74.18-76.12; 22 L.2.76.13-82.5). As described in chapters 3 and 4, the author of this text believed infertility affected both sexes, and although different explanations are given for each sex, ultimately the underlying cause of their infertility is the same, a combination of environment and cultural practices. These discussions provide key evidence for the effect that environment and climate were believed to have on fertility. However, when we place these into context and take *Airs, Waters, Places* as a whole, these descriptions form only one part of a larger discussion on the effect that these factors have on the health of both men and women more generally.

The other aspect we need to explore here: is what constitutes a discussion of fertility and infertility? Of the eleven treatises in the Hippocratic Corpus that could be considered 'gynaecological', four are nearly entirely devoted to the growth of the foetus and problems with childbirth (*Excision of the Foetus*, *Seven Months' Child*, *Eight Months' Child* and *Nature of the Child*). They focus on the foetus, not the mother. The question then arises as to whether these types of discussions should be included as discussions on female fertility. Obviously, the interest in dangers of child birth/pregnancy could be read as seeing problems with fertility. At the risk of sounding facetious, I do not think that we should criticise the ancient medical writers for recognising that it is women who carry and give birth to the children. This is not to say that the ancient medical writers' great interest in the difficulties of pregnancy and childbirth does not point towards a negative view of the female body more generally in antiquity. However, I think that

when we are considering why there appears to be a high number of discussions relating to female fertility compared to those of male fertility, we need to take any discussions relating to childbirth and most of those on the development of the foetus out of the equation. When we do this we find that while discussions on female infertility still outnumber those on that of the male the disparity between levels of interest in male and female infertility is reduced.

#### Diseases and conditions affecting the male reproductive system in the Hippocratic Corpus

The various causes of male infertility have been described in the first four chapters of this thesis alongside the different female causes. Therefore, we have already seen that male infertility was recognised as a possibility by the ancient authors. I think it is important here to bring together the causes of male infertility and consider them in further detail to begin to understand what these sources can bring to our understanding of ancient views of infertility.

As I showed in chapter 3, in the Hippocratic texts, we find two main areas of male infertility: either physical damage to the body or problems with the semen, although often the cause of infertility is a combination of the two. In a passage from the text *On Generation* (2.1-12 L.7.472.5; see p.114 for the full passage) we are informed that external physical damage to the body, either to the genitals themselves or due to an incision behind the ear, causes male infertility. As a result of this either the passage of the seed is damaged, which makes the semen infertile, or the men become impotent.

One aspect of male fertility often overlooked by scholars is the regimens for fertility given in the Hippocratic Corpus. As these regimens have already been discussed in chapter 4 here I just want to note that they are also important when discussing male fertility. As I have shown, both men and women were given advice for regimens to undertake before intercourse in order to either make conception more likely or (as I shall show in the next chapter) in order to increase the chances of conceiving a child of a particular sex. In the case of fertility regimens, male infertility is not directly addressed but the idea that fertility could be boosted in this way suggests that the



possibility of sub-fertility is at least being raised, otherwise these regimens would not be needed.<sup>185</sup>

### Aristotle and male infertility

In this chapter I have until now concentrated on the descriptions of infertility given in the Hippocratic Corpus; however, the biological works of Aristotle offer a different view of male infertility. As should be clear from the first three chapters of this thesis, Aristotle not only provides us with more discussions of male infertility, but also introduces more diverse causes than the Hippocratic texts.

Where the Hippocratic texts concentrate on the problems of the passage of the semen in male infertility, Aristotle's discussions of the causes of male infertility concentrate on the quality and quantity of the semen that was being produced. Aristotle does describe male infertility being caused by physical damage to the genitals either accidentally (*GA.728a15-18*) or due to a malformation in the development of the foetus (*GA.746b35*) but the focus tends to be on the semen itself. Some examples of this include obesity causing infertility in males because less semen is produced (*GA.725b29-34*), semen being damaged by disease (*GA.746b39*) and semen being too cold to be generative in the case of men with a large penis (*GA.718a23*).

When we consider Aristotle's view of the female body, and particularly the fact that he describes women as being women in no small part because of their inability to produce semen, it seems strange at first glance that Aristotle is so open to the possibility of male infertility. It is particularly striking that there is a higher prevalence of discussions of male infertility in Aristotle's works than in the Hippocratic Corpus. I think that one of the main reasons for these differing approaches to male infertility can be found in the theories of conception provided by the two authors.

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<sup>185</sup> Flemming (2013, p. 575) has suggested that although the Hippocratic authors discuss regimens for men to undertake 'The basic responsibility for fertility lies with the woman, the medical inventions focus on her body, but there are things the husband can do to help too; there are actions he can take over and above the baseline of generative possibility'. In the next chapter, I return to how these fertility regimens may be utilised by the physician to gain more of a role in the couple's fertility.

The different theories of conception given by each author and some of the modern scholarship surrounding these theories have been discussed in detail in chapter 1. There are many differences between the Hippocratic theory of conception and that of Aristotle; however, the main difference resides in what each partner provides towards conception. Aristotle (*GA.727a27-30*) states that only the male partner provided semen for the formation of the embryo and the female partner provided menstrual fluid. In contrast, in the theory presented in the Hippocratic text *On Generation* (6.1-2 L.7.478; *Nat.Puer.*14.1 L.7.492) both partners provide semen with the female partner also providing menstrual fluid. One of the major debates on ancient theories of conception in modern scholarship is whether Aristotle believed that the menstrual fluid that the female provided was simply a material used in the formation of the foetus or whether it has certain properties analogous to the semen of the male. A further issue is whether in his theory of conception he was seeking to diminish the female role in conception.

The debate began in the 1970's with Horowitz's (1976) paper on 'Aristotle and Women'. Horowitz's main argument was that Aristotle was using theories of conception to inject his political and ethical views into his biological works.<sup>186</sup> Her evidence came from Aristotle's theory that the man provided the semen, which also acted as the impetus for the growth of the embryo, whereas women only contributed the material for growth; Aristotle's description of women as 'mutilated' men (*GA.737a27*) was also relevant here. This evidence led Horowitz (1976, p. 193) to state that whilst Aristotle was forced to recognise that the female played a role in conception he 'went about as far as one can in attributing fertility exclusively to the male sex'.

The idea that Aristotle denied women an equal role in conception to uphold his view of the role of women in society has been hotly debated in scholarship since the publication of Horowitz's article. Whilst some scholars support Horowitz's opinion that Aristotle's theory of conception is

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<sup>186</sup> Horowitz analyses Aristotle from a feminist position in this article; she also has a particular agenda which she describes as wanting to inspire '....historians to elucidate the later influence of Aristotelian brand of antifeminism'.

‘sexist’, they disagree on which areas of the theory can be considered so, while others argue that Aristotle’s biology is in fact much more neutral on these issues.

The first major criticism of Horowitz’s article was Morsink’s (1979) paper ‘Was Aristotle’s biology sexist?’ written essentially as a response to Horowitz’s article. Morsink accepts that if Aristotle’s views on women in his biological texts are considered alongside those in his political and ethical works, then the conclusion we would arrive at is that the theories given in his biological texts are written in such a way as to support the views given in the rest of his writings. However, he goes on to argue that Aristotle’s views, when placed in their historical and scientific context, are simply an attempt to explain the scientific phenomena of conception and resemblance. Similarly, Deslauriers (2009, cf. 1998) has argued that Aristotle does not use biological differences to make political claims.<sup>187</sup> Although I do not subscribe to Horowitz’s view of Aristotle’s theories of conception, I am not sure that Morsink’s and Deslauriers’s argument - that his views in his biology are so separate from that of his politics and ethics - can be completely accepted. Morsink’s argument is particularly relevant here, namely that these views are simply a scientific theory with no strong connection to Aristotle’s sexist views of wider society.

Among those who argue that Aristotle is *not* downplaying the female role in conception there are two schools of thought surrounding what Aristotle actually regards as the female contribution to reproduction. Kosman (2010) argues that Aristotle’s theory of conception is not one in which the male provides the form and the female the matter of the foetus ‘but that the male in an act analogous to what we call fertilization, begins the process by which the female forms within herself ...their mutual offspring...’ (p. 149). This reading offers a much more neutral reading of Aristotle’s theory, and suggests that the role of each partner in Aristotle is much more balanced. Henry (2007) has suggested that we should view the male sperm as being analogous to the female menstrual blood in Aristotle. Henry says that because menstrual blood is described by Aristotle

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<sup>187</sup> Henry (2007) also argues that there is no evidence that the views given by Aristotle of women in *Politics* are based on his biological views. Mayhew (2004, p. 17) does not believe there is a connection between Aristotle’s biology and his moral and political philosophy either, stating that ‘Aristotle’s notion that women are not sufficiently intelligent to rule in the city is not...the result of conclusions he came to in his biology’.

as unconcocted semen (*GA.727a3-4*),<sup>188</sup> then we should consider menstrual blood as a type of semen, too.

I believe that Aristotle's theory of conception is not aiming to 'play down' the role of the female in conception as much as it is attempting to 'play-up' the role of the male in conception. The fact that it is only women who have the vessel to carry the child, who are able to produce menstrual fluid to nourish the foetus and ultimately give birth to the child, could be viewed as additional attributes which the male body does not possess (Tuana, 1993, p. 189). Of course, this is not the view taken by Aristotle, who instead describes the one element that is provided by the male, semen, as the key to successful conception. However, while Aristotle is keen to increase the role of the male in conception this should not be seen as him reducing the role of the female to simply a vessel for the embryo to grow in. Lesley Dean-Jones (1992, p. 84) has stated 'we can hardly fault the Greeks for making the observation that human reproduction was sexual. Given that they realised that a father was a necessity, it is understandable that some Greeks developed theories explaining what it was that a man provided which a woman could not furnish herself... Aristotle's system, far from negating maternity, claims that if only one sex were to exist it would have to be the female'.

In the Hippocratic theory of conception, both partners are providing the semen, although the female semen is always labelled as being weaker than the male semen. In addition, the female also provides the menstrual blood for the development of the foetus as well as carrying the foetus to term. In Aristotle's theory, women only provide menstrual blood whereas the male provides the semen that goes to provide the form of the foetus and the impetus for growth. Therefore, in terms of responsibility, we would perhaps expect much more emphasis to be placed on the female responsibility for fertility in the Hippocratic texts than in Aristotle's work.

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<sup>188</sup> Aristotle says that semen is a residue from left over nourishment; essentially the blood left over after serving the vital organs of the body undergoes a process of heating called concoction, which turns it into semen. As women are colder than men are they are unable to concoct sperm and instead only concoct menstrual blood.

In addition to the theories of conception, there may be another reason why there is more discussion of infertility in the works of Aristotle than in the Hippocratic texts, and that is the difference in genres. The Hippocratic Corpus is a collection of medical texts; although some treatises are largely theoretical in nature, it is written as a guide to medicine and offers practical advice on how to diagnose and treat diseases. Aristotle's discussions of infertility originate from a biological standpoint and a philosophical background. Lesley Dean-Jones (1994b, p. 17) suggests that Aristotle is less likely than a physician to look at the likelihood of change in the person's fertility status. However, I do not think this is the case, as Aristotle is in fact very open to a change in the status of fertility even stating 'both men and women are observed to change: not only do the infertile become fertile but also those who have borne females bear males' (*GA.723a27*; trans. Peck, 1942, p. 65).<sup>189</sup> As we have seen Aristotle, at least in the case of male infertility, often suggests treatments and tests for male fertility where the Hippocratic Corpus provides none.

Rebecca Flemming has stated that the ancient texts pass 'over the recognized possibility of male responsibility for the lack of procreative success in practice. The theory may be mentioned, but without any remedial engagement' (2013, p. 571). However, this is not strictly true: Aristotle does suggest treatments for infertility. However, I think that the difference between the treatments suggested in Aristotle for both male and female infertility and those suggested in the Hippocratic Corpus is that where the Hippocratic treatments are expected to be acted upon those given by Aristotle are not.

Although the lack of treatment for male infertility could be used to suggest that the male partner was being overlooked as a cause of infertility in the Hippocratic Corpus, there is another factor to consider. There is an important difference between recognising male infertility and treating it. I have previously stated that in cases of infertility in the modern world male-factor infertility is

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<sup>189</sup> φαίνονται δ' οὖν μεταβάλλουσαι καὶ γυναῖκες καὶ ἄνδρες, ὥσπερ ἐξ ἀγόνων γόνιμοι οὕτω καὶ ἐκ θηλυτόκων ἀρρενοτόκοι...

present in around half of couples struggling to conceive. However, despite this, when we look at key data and treatments for infertility, the focus is on the female body.

The NICE guidelines for the treatment of infertility provide a good example here. The guidelines give recommendations for different factors associated with infertility. The guidelines on smoking state that '[w]omen who smoke should be informed that this is likely to reduce their fertility.' and '[w]omen who smoke should be offered referral to a smoking cessation programme to support their efforts in stopping smoking'. However, for men the guidelines state that '[m]en who smoke should be informed that there is an association between smoking and reduced semen quality (although the impact of this on male fertility is uncertain), and that stopping smoking will improve their general health'. The guidelines for obesity follow a similar pattern: '[w]omen who have a body mass index (BMI) of 30 or over should be informed that they are likely to take longer to conceive' and that '[w]omen should be informed that participating in a group programme involving exercise and dietary advice leads to more pregnancies than weight loss advice alone'. Men on the other hand are told 'Men who have a BMI of 30 or over should be informed that they are likely to have reduced fertility' (NICE, 2013, p. 15–16). Therefore, while it is stated that both smoking and obesity can affect the fertility of either partner it is only the female, who is offered treatment to change them. Although this is only a snapshot of the advice for couples struggling to conceive, what we see here is a pattern whereby factors associated with male infertility are acknowledged but treatment is not forthcoming.

Similarly, if we take studies on the prevalence of infertility in society as an example, we find the same to be the case. The authors of the latest major study estimating the frequency of infertility in couples state that: '[a]lthough infertility occurs in couples and may have a male or female cause, estimates are indexed on the woman in each couple' (Mascarenhas et al., 2012). The only way that infertility can be measured effectively is through the evaluation of whether pregnancy occurs and this can only be found in the female body.

These examples suggest that whilst the medical profession can believe infertility can stem from either partner the focus, whether exploring the prevalence of infertility or in treatment, is always

on the female body. The question arises of why we should expect the ancient Greeks not to do something we do ourselves. This is not to say that we should expect social continuity or that any patterns found in modern society can be transferred onto other cultures, historical or otherwise. However, it raises the possibility that, at least to some extent, the Hippocratic writers were following a similar pattern to that which we find in the modern medical profession. There is an acknowledgement and acceptance that male infertility is a factor for a couple struggling to conceive but this does not necessarily translate into treatments or discussions on male infertility.

#### Key differences and trends between male and female fertility

In this final section of the chapter I revisit some of the causes of infertility described and consider some of the key differences between male and female infertility described in the ancient medical texts. On a basic level the differences between male and female infertility can be separated according to the obvious differences in the role of each partner in conception. Jouanna (1999, p. 175) suggests that female infertility was explained either by the fact that the womb could not receive or retain the male sperm or by the fact that normal menstruation was being prevented and in general I agree with this. Male infertility tends to focus on physical damage to the body and the production of semen. However, when we look closer there are other interesting differences between accounts of male and female infertility.

Although it is possible to explain away a lack of treatment and tests for male infertility as placing infertility further into the female sphere and the female body as where treatment takes place regardless of which partner is infertile, when we look at the types of male infertility we do find another possible reason for this evidence. It is noticeable that in the Hippocratic texts nearly every cause of male infertility is permanent – e.g. castration, physical damage to testicles (*Gen.2* L.7.470), or the Scythians cutting behind the ear (*AWP.22* L.2.76.13-82.5). There is a possibility that the lack of treatments for male infertility in the Hippocratic Corpus is not just an attempt to place the responsibility for infertility on women but that male infertility was not something which was seen as curable.

It could therefore be argued that the infertility status of men cannot change as easily as it can in women. The permanence of male infertility seems to be in direct contrast to the curability of female infertility in the Hippocratic Corpus. It is possible that this was influenced by the idea of the female body always being in flux, that is to say, a woman's body is changing throughout her menstrual cycle and changes during pregnancy itself and is therefore more malleable and changeable than the bodies of men. In the examples given of male infertility in the Hippocratic Corpus it is physical damage to the outside of the body, whether to the genitals or to the vein behind the ear, which leads to their infertility. It may also be suggested that male fertility was seen as more stable than female fertility and therefore men's fertility was not only more difficult to 'destroy' but also more difficult to 'cure'. This said, it also needs to be noted that some manipulation of male fertility was thought to be possible as the fertility regimens I have already outlined show. However, these fertility regimens are not aimed at infertile men; rather, the regimens are used to ensure the body is in the best condition for conception to occur.

The situation I have described may be true for the Hippocratic Corpus, but Aristotle is much more open to the idea of change in the status of male fertility. This may be in part due to the types of causes of male infertility given by Aristotle. For example, Aristotle suggests that obesity is a cause of infertility in both sexes and that weight loss can restore fertility in both (*GA*.726a3-5). The source of this dissimilarity between the Hippocratic texts and Aristotle may be in part the differences in the theories of conception outlined in the previous section.

Another difference between male and female infertility seems to some extent to concern where the infertility stems from. In the Hippocratic texts male infertility is normally said to be caused by something external to the body e.g. physical damage to the genitals or the Scythians cutting behind the ear. These are external events which affect the inside of the body. The sources of female infertility are more diverse: infertility can either be caused by something happening to the body from inside or something happening to the inside of the body as a result of external factors. For example ulcers in the uterus are not only occurring inside the body but they also originate inside the body, whereas damage to the uterus caused by the use of harsh pessaries is due to something been added to the body from inside. However, we do find examples of external causes



for female infertility such as the environmental factors in *Airs, Waters, Places*. It is possible that this difference between the higher occurrence of internal factors associated with infertility in women compared to that of men may mirror the fact that whilst male reproductive organs are external to the body the female reproductive system is mostly internal.

In the case of male infertility a different pattern seems to emerge, however. The causes of male infertility can be generally considered as 'unnatural' e.g. physical damage to the body whether intended or accidental. Yet, as I have already stated, male infertility often seems to become a permanent state. So while for women we have 'natural' causes being incurable in men the reverse is true, where 'unnatural' causes are incurable.

There is also the question of natural vs. unnatural infertility. I discussed the differences between 'natural' and 'unnatural' female infertility in the Hippocratic texts in chapter 4 and found that if the infertility was declared to be 'natural' then it was harder to treat than if it stemmed from an 'unnatural' source. For example, in the case of the mouth of the uterus gaping open (*DW*.3.213 L.8.412) this can occur either because of a disease or naturally; it is noted that if it does occur naturally it is likely to be incurable. The same idea is repeated both in the case of excessive or low amount of menstrual blood being released during menstruation (*DW*.3.213.68-71 L.8.412.24-414.3) and in the case of the excessively smooth uterus (*DW*.3.213 L.8.410).

Another aspect of 'natural' infertility is the use of physical characteristics to determine whether someone was likely to be fertile as discussed in chapter 4. We find the physical characteristics of fertility listed for women in the Hippocratic texts; for example, in *Prorrhetic* (2.24 L.9.54.6-58.2) we are told that being large, obese or pale are all signs of reduced fertility. In the Hippocratic texts we do not find these natural physical signs of male fertility, which may further strengthen the idea that for the Hippocratics male infertility only had 'unnatural' causes. However, in Aristotle we do find physical characteristics associated with poor fertility in males. For example, Aristotle states that men with a larger penis are less fertile than those with a moderately large penis as the semen cools too much when being transported and becomes infertile (*GA*.718a23-26). He also suggests that baldness occurs in men who have plenty of semen, whereas woman, children and

eunuchs are not affected due to their lack of semen (*GA.783b35-784a10*). Like in women the colour of the flesh is an indication of male fertility, with Aristotle stating that men who are fair produce more semen than those who are dark (*HA.583.7-10*).

Whilst male infertility may not often feature in the ancient texts it does have enough of a presence not only to tell us something in its own right but when compared with views on female fertility, to allow us to start to see patterns emerge which can further our understanding about ancient views on male fertility.

### Conclusion

Descriptions of male infertility in the Hippocratic Corpus are not as abundant as those of female infertility. However, as I have shown in this chapter, not only is male infertility considered by the Hippocratic writers as a potential problem but there is enough evidence to allow an analysis of how male and female infertility was viewed by the ancient medical writers.

There are several possible reasons for the disparity between the evidence for male infertility compared to that of female infertility. These include the simple biological fact that the man only needs to produce fertile semen and be able to deliver this to the female body during intercourse. As conception and gestation occur in the female body it is only natural the focus of the ancient medical writers is on the female body, at least to some extent. In addition, the Hippocratic writers believed that the reproductive system was key to a woman's overall health and many female diseases stemmed from the uterus. It is important therefore to separate discussions of health involving the reproductive system from those where the focus is on fertility. By taking these factors into consideration we find that disparity between discussions of male and female infertility is not as large as it appears to be at first sight.

When we consider Aristotle's views on male infertility compared to those found in the Hippocratic Corpus we find that Aristotle gives a wider range of conditions and factors which can effect male fertility. As I have shown this appears to be as a result of the differences in theories of conception between Aristotle and the Hippocratic writer of *On Generation*. As Aristotle

appears to be attempting to elevate the role of the male in conception the result is more discussions on male infertility.

## Chapter 6.

### Responsibility for infertility in the ancient medical texts and beyond

Finding the patient in the Hippocratic text is, at first glance, an easy task. It is the body of the patient that is being examined and the progression of their disease, treatment and prognosis that is described. However, ultimately the patient is always hidden. Concealed behind the medical author's words the patient is only visible to us through the gaze of their doctor. As Helen King (1995b, p. 135) has stated, in the Hippocratic texts '[t]he patient is clearly object, not subject'. However, King further states that opportunities for a woman patient to become an active agent can be imagined. It is in these situations that, over the last twenty years, scholars have not only attempted to find the patient's voice but have also discussed the difficulties involved in searching for the patient in the ancient texts.

In terms of infertility, it is only the female patient of whom we can catch glimpses in the Hippocratic texts. As I have described, whilst it was accepted that male-factor infertility was possible, any treatment took place in the female body. The only time we see any interaction with male infertility is through the fertility regimens but the details of these are limited. In some ways, the infertile patient is somewhat more hidden than patients with other diseases. As I have described in the preceding chapters, infertility is often discussed only as a by-product of other diseases and conditions and therefore, in a patient presenting with a problem of the reproductive system, the focus is likely, although not always, to be on them as a general 'gynaecological' patient than a specifically 'infertile' one. The lack of discussions about the 'infertile' patient is highlighted by the fact that in book 3 of *Diseases of Women* there is only one short case study in which we are told that a young woman suffering from a red flux is unable to conceive even after she has been cleansed with purgatives. However, the flux is stopped by a concoction of thorny trefoil roots in white wine and she goes on to give birth to a baby boy.<sup>190</sup> This is the only time the

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<sup>190</sup> See chapter 4 for a more detailed discussion of this passage.

effect of treatment on a specific patient is described in this text. Elsewhere, the advice given on the causes and treatment of infertility, uses the more generic ‘if the patient has...’ or ‘treat the patient...’.

While we may only see the patient through the doctor’s eyes in the Hippocratic texts, this in itself is of interest and in chapter 7 I shall explore how the Hippocratic writers appear to perceive their patients. First, however, I will explore whether the information we are given in the ancient medical texts helps us to understand the role of the doctor in the lives of the infertile couple. The focus will be on the point at which the doctor became involved in a couple’s fertility and I shall argue that the use of fertility regimens suggests that physicians may have been consulted on fertility more generally.

The remainder of the chapter will search for the infertile patient beyond the medical texts. I will particularly focus on the ‘alternative treatments’ available to those struggling with fertility problems in the fifth and fourth centuries BC. This will include the use of healing sanctuaries and oracles. I am particularly interested in whether these sources can help us understand whether the pursuit of fertility was led by the male or female partner or the couple together.<sup>191</sup>

#### The role of the doctor in fertility

In chapter 4, I explored some of the regimens given in the Hippocratic texts to increase the chances of a successful conception occurring. When investigating these I described how, in addition to regimens for women who were struggling to conceive, more general regimens were suggested for both partners before intercourse. For example, in *Diseases of Women* (220 L.8.424) it is suggested that the woman should fast beforehand and then remain still after intercourse to ensure the seed is retained. The man should be sober, bathe in cold water and eat a small amount. Regimens such

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<sup>191</sup> One important aspect of a person’s quest for fertility in the ancient world that I do not discuss here is the evidence for the use of offerings at religious sites. This is in part because of limitations of space but also because of the nature of the evidence itself. In the inventories from the sanctuary of Artemis Brauronia at Athens many dedications, mainly of textiles and garments, are recorded (Linders, 1972). However, the lists do not include the reason for these dedications although as Artemis was concerned with the female life-cycle it is likely that most dedications were linked to either fertility or reproductive health (King, 1998, p. 85–86 n.27; cf. Flemming, 2013, p. 581). There are also votive offerings at other sites which are in the shape of wombs but as with those left at Artemis Brauronia it is difficult to know their exact purpose although some wombs have a small clay ‘pea’ inside which scholars have suggested represents a foetus (see Oberhelman, 2014, p. 57–58; cf. Baggieri, 1998).

as these appear to be offering general advice to couples wishing to conceive rather than targeting couples who are struggling to do so.

There are other important aspects to the fertility regimens, such as the use of pessaries, fumigations and recipes to promote pregnancy in a woman. The use of pessaries and fumigation in treatments for diseases associated with infertility has been discussed in chapter 3, but they are also found in descriptions of techniques used to increase fertility. Sometimes they are described as being used in a woman who has not become pregnant despite trying, but at other times there is no suggestion of any fertility problems, and what is significant is that they do not appear to be targeting any particular disease or condition.

Often there is just a brief passage giving the pessary and its purpose, so for example:

ἐγκυητήριον ἄκρον· μελανθίου γυναικὶ διδόναι, ἐν οἴνῳ μέλανι στρυφνῶ.

An excellent agent to promote pregnancy: give a woman some black cumin in a dark astringent wine.

(*DW*.3.231 L.8.444; trans.Potter, 2012, p. 375)

προσθετὸν κυητήριον· νίτρου καὶ λιβανωτοῦ βαλάνιον ποιήσας ἐν μέλιτι πρόσθεας.

Application to promote pregnancy: make a small suppository of soda and frankincense in honey, and apply.

(*Nat.Mul*.109.8 L.7.109; trans.Potter, 2012, p. 317)

Here there is no sense of these treatments being prescribed in order to do anything other than to increase fertility. Although it is stated that these are to ‘promote pregnancy’ with no explanation as to whether the woman was struggling to conceive it may be that it would be understood that there was an underlying issue. I suggest this because in *Diseases of Women* (3.217 L.8.418) the passage begins in a similar way as the two passages above, stating *θεραπεῖαι κυήσιος πειρητήριοι καὶ παιδογονίης*, ‘treatments promoting pregnancy and childbirth’. However, the passage goes on

to describe the mouth of the uterus as being hard and closed, and then explains how it should be treated. Therefore, the phrase ‘promote pregnancy’ is not used solely when a problem regarding fertility has been identified.

In addition to outlining regimens for fertility, the ancient medical writers describe how a couple may attempt to predetermine the sex of their child through regimen. Sometimes these discussions are theoretical in nature, being primarily concerned with how a female and male child develops, but at other times they offer more practical advice.

In the Hippocratic text *Regimen*, the author offers both theoretical and practical advice stating:

ἄρρενα μὲν οὖν καὶ θήλεα ἐν τῷδε τῷ τρόπῳ γίνοιτ’ ἂν ὡς ἀνυστόν· τὰ δὲ θήλεα πρὸς ὕδατος μᾶλλον ἀπὸ τῶν ψυχρῶν καὶ ὑγρῶν καὶ μαλακῶν αὖξεται καὶ σίτων καὶ ποτῶν καὶ ἐπιτηδευμάτων· τὰ δὲ ἄρρενα πρὸς πυρὸς μᾶλλον, ἀπὸ τῶν ξηρῶν καὶ θερμῶν καὶ σίτων καὶ διαίτης· εἰ οὖν θήλυ τεκεῖν βούλοιτο, τῇ πρὸς ὕδατος διαίτῃ χρηστέον· εἰ δὲ ἄρσεν, τῇ πρὸς πυρὸς ἐπιτηδεύσει διακτέον· καὶ οὐ μόνον τὸν ἄνδρα δεῖ τοῦτο διαπρήσσεσθαι, ἀλλὰ καὶ τὴν γυναῖκα.

Males and females would be formed, so far as possible, in the following manner. Females, inclining more to water, grow from foods, drinks and pursuits that are cold, moist and gentle. Males, inclining to fire, grow from foods and regimen that are dry and warm. So if a man would beget a girl, he must use a regimen inclining to water. If he wants a boy, he must live according to a regimen inclining to fire. And not only the man must do this, but also the woman.

(*Reg.* 1.27 L.7.500; trans. Jones, 1931, p. 265)

The advice given here fits into the wider views given in the Hippocratic texts that men are generally hot and dry, whilst women are inclined to be moist and colder in nature. It is also noticeable that the regimen given for the production of the male child, one which is hot and dry, is the same advice given for regimens to generally increase the fertility of a couple.

Further advice is offered elsewhere; *Superfétation* suggests the following regimen:

ὅταν βούληται ἄρσεν φυτεύειν, τῶν ἐπιμηνίων ἀποληγόντων ἢ ἐκλελοιπότων μίσγεσθαι· καὶ ὠθέειν ὡς μάλιστα ἕως ἂν ἐκμιαίνηται· ὅταν δὲ θῆλυ βούληται γενέσθαι, ὅταν πλεῖστα ἐπιμήνια ἢ τῇ γυναικί, καὶ ἔτι δ' ἐόντων, τὸν δὲ ὄρχιν τὸν δεξιὸν ἀποδῆσαι ὡς ἂν μάλιστα καὶ ἀνέχεσθαι δύνηται· ἔπῃν δὲ ἄρσεν βούληται φυτεύειν, τὸν ἀριστερὸν ἀποδῆσαι.

When he wishes to beget a male child, let him have intercourse when his wife's menses are ceasing or have stopped, and he should push very hard until he ejaculates. When he wishes to beget a female child, he should have intercourse when his wife's menses are still present and flowing in their greatest amount, and also he should bind up his right testicle as tightly as he can stand. When he wishes to beget a male child, bind up the left testicle.

(*Superf.*31 L.8.500; trans.Potter, 2010, p. 345)

As in the previous example the advice given on the timing of intercourse, when menstruation is coming to an end, is the same as given on the best time to conceive a child as described in the previous section of this chapter. Once again, the advice for the production of a male child aligns itself with the advice given for fertility in general. However, the advice given for the production of a female child seems to contradict all the advice given in the Hippocratic texts for conception to occur successfully. The only explanation for this seems to be that it was believed that the best chance of producing a female child was to effectively weaken the person's fertility and go against all the advice given to strengthen fertility.

In this passage from *Superfétation* we find the only fertility advice pertaining to the actual act of intercourse that I can find in the Hippocratic texts; the idea that the male should push very hard until he ejaculates if he wishes to produce a male child. Presumably this will reduce the distance the semen needs to travel in order to enter the uterus, thus keeping it as warm as possible. We also find the advice to bind the testicles, which fits into the wider theories in the Hippocratic texts



linking the right hand side of the body to the male and the left to the female; male children were thought to be produced in the right hand side of the uterus and female children in the left (*Superf.*31 L.8.500). Aristotle informs us that the Hippocratic writers were not the only people to believe in the link between the left and right hand sides of the body and the sex of a child stating that Anaxagoras and others argued that males come from the right testicle, females from the left (*GA.*763b31-33). Aristotle, himself, however disputes the idea that binding of a specific testicle influences the sex of the child, saying that those who state this are using guesswork (*GA.*765a23-25). He also argues against the idea of the different sexes developing in different sides of the uterus, saying that female fetuses have been observed in the right hand side of the womb and males on the left (*GA.*765a14-20).<sup>192</sup> Aristotle does agree in general terms with the idea that semen coming from the right hand side of the body in general will be hotter and that this could have an effect on the gender. He states that the right hand side of the body is hotter and this would cause the semen to be more concocted and thus more set and compacted, and the more compressed semen is the more fertile it is (*GA.*765a35-765b6). It would therefore seem that the production of strong and more fertile semen was linked to the production of male children whereas weaker semen was associated with the bearing of female children.

For Aristotle what determines the sex of the child is the innate heat of the child, which is produced during conception. Aristotle believed that the innate heat a person possesses is at its highest during the development of the foetus; it will continually diminish throughout a person's life until their death, although men always have more of this innate heat than women do. Therefore, the sex of the embryo is determined by the innate heat produced during this time (*GA.*766a31-766b8). Aristotle does make some suggestions as to the conditions in which a male or female foetus is more likely to occur. He states that younger and older parents are more likely to produce female children compared to those in their prime, because in younger parents their heat has not yet being perfected and in those who are older it is failing.<sup>193</sup> He also notes that parents who have more

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<sup>192</sup> As far as can be ascertained Aristotle did not dissect humans therefore this knowledge is likely to have being observed during animal dissection.

<sup>193</sup> See chapter 1 for the age at which males and females were believed to become fertile.

fluid and are feminine are more likely to produce females (GA.766b28-34). Aristotle also describes the effect of the environment on the production of the different sexes. He suggests that when the winds are in the north males are more likely to be produced than when they are in the south, as the body has more fluid when the winds are in the south. This means males have thinner semen as there is more fluid and so it is harder to concoct, and menstrual discharge in females is also thinner and therefore their fertility is also affected (GA.766b35-767a2).<sup>194</sup> In another passage Aristotle describes thin seed as infertile, although he then goes on to say that ‘granular [seed] is fertile and tends to generate males; that which is thin and not clotted generates females’ (HA.582a30-32; trans.Balme 1991, p. 425). Aristotle further notes that women who have struggled to conceive and had treatment tend to produce girls (HA.585b29-30) and that a couple may only produce boys or girls together, and yet when they have children with other partners they find they have children of the opposite sex (HA.575b9-12). As in the Hippocratic texts, we find Aristotle arguing that a decrease in fertility is linked to the production of a girl whereas those who are at their most fertile are likely to produce boys.

These fertility regimens suggest that doctors were becoming involved, or at least wanted to be involved, in fertility before infertility had necessary become an issue. As this thesis has shown, infertility was certainly considered an issue which the medical authorities considered worthy of discussion. However, the fertility regimens may point towards an early attempt to medicalise fertility itself.

There is further evidence of a potential medicalisation of fertility in two other passages from the Hippocratic texts. In book 3 of *Diseases of Women*, after describing the causes and treatments for infertility, the author states that as these are so numerous that ‘there is no need to be surprised that there are often women who fail to give birth’ (DW.3.213 L.8.414 trans.Potter, 2012, p. 339).<sup>195</sup>

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<sup>194</sup> Interestingly Aristotle also says that shepherds notice a difference in the production of males and females not only when the winds are in the north or the south, but also whether the animals face north or south whilst they are copulating (GA.767a8-13), although he does not suggest humans try the same.

<sup>195</sup> See p.79-80 for the entire passage in both English and Greek.

This statement suggests, then, that infertility was thought to be a relatively frequent occurrence in Hippocratic medicine. Similarly, in the first book of *Diseases of Women* the author describes many causes of miscarriages after which he states, ‘women need not be surprised at the fact that they have miscarriages although they do not want to. In fact it requires careful attention and much skill to carry a child to full term, to nourish it properly in the womb, and to bring it forth at the time of birth without injury to herself’ (*DW*.1.25 L.8.68; trans. Hanson, 1975, p. 580).<sup>196</sup>

In both examples given, the emphasis is on how difficult it is not only to get pregnant but to carry that child to full term. The underlying argument behind the statement ‘it requires careful attention and much skill to carry a child to full term’ and ‘there is no need to be surprised that there are often women who fail to give birth’ could well be that fertility is not something to be left to chance but requiring medical intervention

#### Infertility and the healing sanctuary

The consultation of a doctor was only one route available to a couple with fertility problems. The alternative recourse was to turn to the gods. There were several approaches a couple could take, and it is possible to split these into three main categories, involving, in turn, a ‘question’, ‘prevention’ or a search for a ‘cure’. The couple could visit an oracle and question whether they would ever have children; the woman could attend a fertility festival or perform other rituals to ensure she would remain fertile; or she could seek to become pregnant by attending a healing sanctuary. The expectations of a positive outcome for infertility could therefore be increased by appealing to a divine physician (Flemming, 2013, p. 568).

Although the gods could be turned to in cases of infertility, there is little evidence that the origin of fertility problems was believed to be a divine punishment in antiquity. Fleming (2013, p.

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<sup>196</sup> ὥστε οὐ χρή θαυμάζειν τὰς γυναῖκας, ὅτι διαφθεῖρουσιν ἄκουσαι· φυλακῆς γὰρ καὶ ἐπιστήμης πολλῆς δεῖ ἐς τὸ διενρουν αἰκονσαι· φυλακῆς γὰρ καὶ ἐπιστήμης πολλῆς δεῖ ἐς τὸ διενεγκεῖν καὶ ἐκθρέψαι τὸ παιδίον ἐν τῇ μήτρῃσι, καὶ ἀποφυγεῖν αὐτὸ ἐν τῷ τόκῳ.



569) suggests that '[t]he notion of barrenness as divine punishment, as "divine curse"...is found only in the imagination, through looser ideas of fate and fortune'. The gods may have an impact on a person's life and fortune, and fertility may have been a part of that, but infertility does not seem to have been thought of as a punishment for a person's actions. Although, as Flemming (2013, p.569) points out, whether the cause of the problem was natural or supernatural or both, it was believed that the gods could put it right without knowing or acknowledging the root cause.

The role of healing sanctuaries in the couple's quest for fertility is an interesting one. However as I shall show, the evidence for those attending healing sanctuaries for fertility problems lacks many key details and often raises more questions than are answered. The healing sanctuary in the fifth and fourth centuries BC was nearly always associated with the god Asclepius, himself the son of Apollo who was also associated with healing.<sup>197</sup> The association between Asclepius and healing had been present in Greek culture for some time and the first mention of Asclepius can be found in the *Iliad*. The cult of Asclepius developed in the fifth century BC and spread across the Mediterranean. During the fourth century BC around 200 temples of Asclepius were founded across Greece (King, 1998, p. 100). Those who needed help from the god could make a pilgrimage to the temple in order to be 'healed'.<sup>198</sup> In the normal course of events, people would arrive at the sanctuary, explore the grounds, cleanse themselves in a spring or well, and offer sacrifices. The person would then sleep in the sanctuary, either under the open sky or in a covered building or often in the Abaton, the innermost temple. During this process known as 'incubation' the person would dream that the god came to them and either cured their ailment within the dream via surgery or drugs or gave them a recipe for a remedy, or advice on diet or exercise to be followed upon awakening.

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<sup>197</sup> For more information on the cult of Asclepius see Edelstein's (1945 repro. 1998) 2 volume collection and interpretation which remains one of the most detailed and important works on Asclepius. However, it is limited to literary sources for an exploration of the wider material evidence and an updated interpretation see Wickkiser (2008) also for Epidauros see LiDonnici (1995).

<sup>198</sup> Although generally pilgrims had a medical issue to be resolved, there were non-medical pilgrimages too for example B4 is a case of a lost son and C3 a man is asking for help to find his treasure.

One of the most popular sanctuaries in antiquity was that of Epidaurus in the Peloponnese and here dedications were left by the supplicants thanking the god and explaining their experience of incubation. In the middle of the fourth century BC major building and refurbishment works were undertaken at Epidaurus, and as part of this large stone stelae were put on display with stories of divine healing inscribed, known as *iamata*.<sup>199</sup> The number of the original stelae is unknown but by the second century AD Pausanius (2.27.3) noted that he had seen six but there had once been more. In the late nineteenth century, four stelae with around 70 *iamata* were recovered from the site.<sup>200</sup> Of these only 43 of the tales from two of the stele are readable. Five of these inscriptions relate to approaching the god for help with becoming pregnant.<sup>201</sup> These cases are outlined in the table below.

A2 <sup>202</sup> (423.2)	A three-year pregnancy. Ithmonika of Pellene came to the sanctuary for a family. Sleeping here she saw a vision. It seemed that she asked the god if she could conceive a daughter, and Asclepius answered that she would and that if she asked anything else that he would do that as well, but she answered that she did not need anything more. She	τριέτης [φο]ρά. --Ἰθμονίκα Πελλανίς ἀφίκετο εἰς τὸ ἱερόν ὑπὲρ <u>γενεᾶς</u> . ἐγ[κατα- [κοι]μαθεῖσα δὲ ὄψιν εἶδε· ἐδόκει αἰτεῖσθαι τὸν Θεὸν κυῆσαι κό- [ραν], τὸν δ' Ἀσκληπιὸν φάμεν ἔγκυον ἐσσεῖσθαι νιν, καὶ εἴ τι ἄλλο α[ἰτ]οῖτο, καὶ τοῦτό οἱ ἐπιτελεῖν, αὐτὰ δ' οὔθενός φάμεν ἔτη, ἔστε πα-
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<sup>199</sup> It is worth noting that we do not know who actually wrote these inscriptions it could be the supplicant but may have been the priests at the temple (Dillon, 1997, p. 191). However, they should be read as not only a dedication from a satisfied pilgrim but as fact, even though some of the cases are somewhat unbelievable to a modern audience.

<sup>200</sup> The *iamata* from Epidaurus are generally dated from the fourth century BC to the third century AD (Wickkiser, 2006, p. 26). LiDonnici (1995, p. 26) suggests that the earliest tales date from the fifth century BC and that those relating to fertility date from the early or middle period of occupation.

<sup>201</sup> I have excluded the case of Kleo (A1) and her five-year pregnancy from this list. Although Kleo’s case is related to childbearing, her attendance is in search of a conclusion to her extended pregnancy rather than help conceiving a child.

<sup>202</sup> I am primarily using the numbering system given in LiDonnici (1995). I have included Edelstein’s (1945) references for clarity.

	<p>became pregnant and bore the child in her stomach for three years, until she came again to the god as a suppliant, concerning the birth. Sleeping here she saw a vision. The god appeared, asking whether everything she had asked had not happened and she was pregnant. She had not asked anything about the birth, and he had asked her to say whether there was anything more she needed and he would do it. Right after this, she rushed out of the Abaton, and as soon as she was outside the sacred area, gave birth to a daughter.</p> <p>(LiDonnici, 1995, p. 87)</p>	<p>ρέβαλε ποιὸν θεὸν ἰκέτις ὑπὲρ τοῦ τόκου· ἐγκατακοιμαθεῖσα δὲ ὄψ[ι]ν εἶδε· ἐδόκει ἐπερωτῆν νιν τὸν θεόν, εἰ οὐ γένοιτο αὐτᾷ πάντα ὅσσα αἰτήσαιτο καὶ ἔγκυος εἴη· ὑπὲρ δὲ τόκου ποιθήμεν νιν οὐθέν, καὶ ταῦτα πυνθανομένου αὐτοῦ, εἴ τινος καὶ ἄλλου δέ- οιτο, λέγειν, ὥς ποιησοῦντος καὶ τοῦτο. ἐπεὶ δὲ νῦν ὑπὲρ τούτου παρεῖη ποτ’ αὐτὸν ἰκέτις, καὶ τοῦτό οἱ φάμεν ἐπιτελεῖν. μετὰ δὲ τοῦτο σπουδαῖ ἐκ τοῦ ἀβάτου ἐξελθοῦσα, ὥς ἔξω τοῦ ἱεροῦ ἦς, ἔτε- κε κόραν.</p>
B11 (423.31)	<p>Andromache of Epirus, concerning children. When she was sleeping here she saw a dream. It seemed to her that a handsome young boy uncovered her, and after that the god touched her with his hand. From this a son was born to Andromache by Arybbas.</p> <p>(LiDonnici, 1995, p. 109)</p>	<p>Ἀνδρομάχα ἐξ Ἀπείρο[υ] <u>περὶ παῖ- δων</u>. αὐτὰ ἐγκαθεύδουσα ἐνύπιον εἶδε· ἐδόκει αὐτᾷ π[α]ῖς τις ὥραϊ- ος ἀγκαλῦσαι, μετὰ δὲ τοῦτο τὸν θεὸν ἄψασθαί οὐ τᾷ [χη]ρί· ἐκ δὲ τού- του τᾷ Ἀνδρομάχῃ υἱ[ι]ὸς ἐξ Ἀρύββα ἐγένετο.</p>
B14 (423.34)	<p><i>A woman from Troizen,</i><sup>203</sup> concerning children. This woman, sleeping here,</p>	<p>[...]νία ὑπὲρ τ[έ]-</p>

<sup>203</sup> LiDonnici (1995, p. 110 n.38) states she is providing minimal restorations of partial words, based on reading of Hiller (1929) and Herzog (1931) The italicized words represent translation of restored text and the emphasis is LiDonnici’s.

	<p>saw a dream. <i>It seemed to her the god</i> said that she would have a family and he <i>asked whether her wish was for a male or a female</i>, and she said <i>she wished for a male. After this, within a year</i> a son was born to her.</p> <p>(LiDonnici, 1995, p. 111).</p>	<p>κνων. αὐτα ἐγκαθεύδου[σα] ἐν[ύπνιον] εἶδε· ἐδόκει οἱ φαῖσαι ὁ [θεὸς] ἐσσεῖσθαι γενεὰν καὶ ἐ[π]ερ[ωτᾶσαι] εἰ ἐπιθυμέοι ἄρσεν[α ἢ θηλυ]- τέραν, αὐτὰ δὲ φάμεν ἐπιθυμεῖν ἄρσενα. μετὰ δὲ τοῦ]το ἐ[ν]τὸς ἐνι]- αὐτοῦ ἐγένετο αὐταῖ υἱ[ός]</p>
<p>B19 (423.39)</p>	<p>(<i>Agamedea</i>)<sup>204</sup>----da from Keos. This woman, sleeping here concerning children, <i>saw a dream</i>. It seemed to her that in her sleep a snake <i>lay down</i> upon her stomach. <i>And from this</i> five children were born to her.</p> <p>(LiDonnici, 1995, p. 113).</p>	<p>[-----]-</p> <p>δα ἐκ Κέου. αὐτα περὶ παίδων ἐγκαθεύδ[ουσα] ἐνύπνιον εἶδε· ἐδό]- κει οἱ ἐν τῷ ὕπνῳ δράκων ἐπὶ τᾷς γαστ[ρὸς] κεῖσθαι· καὶ ἐλ τούτου] παῖδες οἱ ἐνέοντο πέντε.</p>
<p>B22 (423.42)</p>	<p>Nikasiboula of Messene, concerning children. <i>Sleeping here</i> she saw a dream. It seemed to her the god <i>came</i> bringing a snake <i>creeping beside him</i> and she had sex with it. <i>And from this</i> children were born to her within a year, twin boys.</p> <p>(LiDonnici, 1995, p. 115)</p>	<p>Νικασιβούλα Μεσσανία περὶ παίδω[ν] ἐγκαθεύδουσα]</p> <p>ἐνύπνιο εἶδε· ἐδόκει οἱ ὁ θεὸς δράκοντα μεθ[-----]</p> <p>φέρων παρ' αὐτάν, τούτῳ δὲ συγγενέσθαι αὐτά· [καὶ ἐκ τούτου] παῖδες οἱ ἐγένοντο εἰς ἐνιαυτὸν ἔρσενες δύ[ε.]</p>

<sup>204</sup> Edelstein (1945, p. 237) gives the name Agamedea whereas LiDonnici leaves this blank.



At first glance, these healing tales seem somewhat unrealistic if not impossible.<sup>205</sup> Indeed, Flemming (2013, p.288) argues that these should not be interpreted as case notes, or necessarily having a direct relationship to actual events. Flemming goes on to say that the *iamata* cannot be removed from the real workings of the healing sanctuary because ‘if the accounts were at odds with the understandings of health and disease, humanity and divinity, which people brought with them to places like Epidaurus, or at odds with their real experiences at the site, then they would not have lasted, and if supplicants had not gained tangible benefits from their visits, then they would have stopped coming’. While we cannot take the tales of the *iamata* as a true representation of events, this does not detract from what they tell us about the experience of women approaching Asclepius for help with conception. It is what these women might have believed and how these *iamata* can help our understanding of infertility in the ancient world that is of interest.

The events contained in the inscription associated with the bearing of children follow a similar pattern to those for other diseases and all involved the process of incubation. In each case, the woman sleeps at the temple and has an interaction with the god. In some cases, the woman simply talks to the god and asks for a child, as in the case of a woman from Troizen (B14), for example. Similarly, Ithmonika (A2) only speaks to the god in order to become pregnant. However, in this case, the result is not straightforward, as Ithmonika has asked ‘to conceive’ (κυῖσαι), the god only ensures this is what happens until she returns. This is clearly a case of be careful what you wish for. Despite the somewhat prolonged pregnancy, in both cases the formula is the same. The women ask for ‘offspring’; the god either asks, or they specify, the sex of the child, and this is granted.

In the examples above, there is no suggestion of the women being touched by the god. However, most of the women are described as having some interaction with either the god or his snake. Andromache (B11) is uncovered by a boy and then touched by the god, Agamedea (B19) dreams that a serpent lies on her belly and in one case intercourse takes place. Nikasiboula (B22) is

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<sup>205</sup> Although they are not as incredible as the case of Kleo (see n201) whose five-year pregnancy ends by giving birth to a child who promptly begins washing himself in the fountain outside the sanctuary.

approached by the god but is not touched by him; instead, she has intercourse with his snake, which results in twins within a year.<sup>206</sup>

The lack of any physical contact between the god and the woman in four out of the five cases is interesting (only Andromache is actually touched by the god). There are other instances of healing in the *iamata* where no physical contact is made; for example a boy suffering from bladder stones (A8) is simply asked by the god what he would give to be cured to which the boy replies 'ten dice' and when he wakes up he is cured. The idea that the god can cure without touching their patient forms part of the narrative of the divine physician, who is thus credited with impressive medical skills (King, 1998, p. 103). However, the lack of physical contact serves another purpose in the cases relating to pregnancy and this is to avoid any suggestion of impropriety or indeed a suggestion that the god was involved in the paternity of the child.<sup>207</sup> The only instance of a woman being touched by the god is that of Andromache (B11) so it is perhaps not surprising, then, that this is the only case where a husband or father of a child is mentioned. We are told that '[f]rom this [the god touching her] a son was born to Andromache by Arybbas'. The god in this case has touched her and the paternity of the child therefore needs to be stated to make sure there is no doubt.<sup>208</sup>

Any type of touch associated with reproduction can raise questions that are not under consideration with other types of cure. LiDonnici (1995, p. 36) suggests that as three out of the four cases on stele B contain sexual contact (although this may be overstating the case: it is not clear if B14 or B19 should be seen as sexual contact), it is tempting to suggest that the priests are acting an overnight surrogate father service for women with infertile husbands, but there is no evidence for this and it is unlikely to be the case. Flemming (2013, p. 586) suggests that in the

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<sup>206</sup> There is another case in the *iamata* where intercourse takes place, although not with a god. A man with a bladder stone (A14) dreams of having intercourse with a young boy with the stone being released at the moment of ejaculation.

<sup>207</sup> It is worth noting that in a case of a woman with stomach pain (B21) the god kisses the woman and rubs her stomach before providing her with a drug to make her vomit.

<sup>208</sup> Herzog (1931 cited in LiDonnici, 1995, p. 109 n.51) has attempted to identify this inscription with Arybbas, the king of the Molossians, a tribe of Epirus.

case of Nikasiboula (B22) paternity issues are raised but that 'it is not at all clear that sex with Asclepius's snake is meant to be anything more than the proximate cause, broadly enabling, of her having twins'. For Flemming (2013, p. 586) the snake in this context may show that Asclepius and the Hippocratics are being subject to the same cultural force, further stating that the snake does not suggest divine parenting but is based on the model of a gourd as phallic vegetables are in the Hippocratic gynaecological recipes.<sup>209</sup>

Many of the dedications end with a statement that the suppliant was cured of their disease when they left the temple, which would make it possible that the person made their dedication whilst they were still at the temple. However, in the cases of children resulting from their visit, the woman would have had to make the dedication at least nine months later, if not many years after. In the cases of Nikasiboula and the woman from Troizen, we are told that 'within one year' of their visit, they had given birth. Giving the period of a year would help link the woman's pregnancy to the care of the god. The dedication from Agamedea, who was said to have had five children after her visit, is likely to have been made many years after her visit. LiDonnici (1995, p. 113 n.51) has suggested, and I agree, that the lack of emphasis on the number of children makes it unlikely that there was a multiple birth involved and that the dedication was made many years afterwards, perhaps even at the end of her reproductive life.<sup>210</sup>

While there is no doubt that the women in these inscriptions approached the temple regarding the production of children, there are questions raised about the exact nature of these visits. First, what exactly was the cause of the woman's visit and second, should we consider any of them to be cases of infertility? At first glance, the answer should be a simple one, for if these women were not struggling to conceive then what other reason would they have to ask the god for children? However, there is no mention of a struggle to conceive at all in these inscriptions, and the language is somewhat vague.

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<sup>209</sup> See Totelin (2007, cf. 2009) on the use of phallic vegetables in Hippocratic gynaecological recipes.

<sup>210</sup> LiDonnici (1995, p. 115 n.60) compares this to the case of Nikasiboula where a multiple birth can be assumed from the phrase 'within a year'.

Andromache [B11], Agamedea [B19] and Nikasiboula [B22] are all described as coming to the temple *περὶ παίδων* ('about children'). Ithmonika [A2] is described as coming to the sanctuary *ὑπὲρ γενεᾶς* ('for offspring/ a family') and makes the mistake of asking the god to make her *κυῆσαι* ('conceive/ become pregnant'); similarly it is stated that the woman from Troizen comes to the sanctuary *ὑπὲρ τ[έ]κνων* ('about children').<sup>211</sup> While these women are all coming to the temple about children it is not clear whether they, or someone else, have identified them as struggling to conceive. None of the women attending the sanctuary described themselves as *ἄφορος* or becoming *ἄγονος*. Indeed, any language associated with infertility is missing from these inscriptions. Furthermore, even if the woman had been diagnosed (or had self-diagnosed) as infertile there are no descriptions of any conditions associated with infertility. Perhaps, even more surprisingly, considering how common the Hippocratic Corpus suggests them to be, none of the inscriptions from Epidaurus mentions any gynaecological problems.<sup>212</sup> None of the women in the cases associated with pregnancy are 'treated' per se, the only contact with the physician-god being through the touch either of the god himself or his snake. Instructively, this contrasts with the treatment of other ailments, since many of the tales from Epidaurus do have the god offering recipes as remedies or performing surgery on the patient. I think that the fact that not one of the inscriptions relating to children mentions either a cause of the woman's fertility problem or a specific treatment is worth noting. It would seem that the infertility presented at the sanctuary is not seen as a symptom of a disease, as it often is in the ancient medical texts, but rather as a condition in its own right.

Considering this, the question arises whether any of the inscriptions relating to childbearing should be viewed as cases of infertility. After all, the women whose stories feature in these inscriptions could simply be visiting the sanctuary in order to ensure their future fertility, in a similar way to which oracles were used (as we shall see later in the chapter). However, as many of the cases say the woman gave birth within a year of her visit, it would seem her fertility in the

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<sup>211</sup> Flemming (2013, p. 585) suggests that 'children seem more positive and prospective, less directly somatic, than the pathological norm'.

<sup>212</sup> The only case that may be considered as gynaecological is B5 is an instance of 'false pregnancy' although this does seem to be a case of worms as the woman is cut open and 'creatures' are removed. It is not clear whether these are removed from her stomach or her womb.

future was not the prime concern. There is also a possibility that a woman wishing to conceive could attend the sanctuary as part of wider fertility preparations including the fertility regimens outlined in the Hippocratic texts. Despite this I believe that we should assume that the most likely reason for these women to be attending the sanctuary is either that they have identified themselves as infertile or have been labelled thus by someone else, perhaps their family or a doctor. These women may not be appealing for a cure for their fertility problems but are asking the god to aid them in having children.

Flemming (2013, p. 585) has emphasised the ‘weakened physicality surrounding fertility’ and has noted that a simple touch or conversation with the god was sufficient to ensure a pregnancy. She further states that ‘these women do not “walk out well” but subsequently bring forth children.’ However, I am not sure I agree with the idea that the women who attended the sanctuary for children do not ‘walk out well’. Although the signposts of infertility that we find in the Hippocratic texts, such as terminology and diseases associated with infertility, and even recognisable treatments, are missing within the context of the *iamata* this is normal. The cases of Ithmonika (A2) and the woman from Troizen (B14), who only speak to the god, are no different from a case such as that described in A8 of a boy with bladder stones who speaks to the god and is cured. Again, Andromache (B11) is touched by the god and is cured and this is not qualitatively different from the case of a man whose fingers are paralysed, where a touch from the god restores their movement (A3). We are not told how the man’s fingers were paralysed; was it from birth or a result of an accident or disease? Similarly, we are not told what might be causing these women to appeal to the god, simply that they are here regarding children.

Where the difference lies in the cases of infertility is in its visibility and the time-scale involved. The cause of infertility is often, although not always, hidden inside the body and therefore the cure is too. This is not the case in many of the other conditions listed on the *iamata*, such as the man with fingers that are no longer paralysed, and the blind woman who can now see. These cases also have an immediacy which infertility does not have. It is clear that the man’s fingers are cured when he wakes up, but this is not the case for the woman seeking pregnancy. What is more, while the woman might be cured from her visit to the sanctuary, in order to prove that this is the case,

another step needs to be completed; the woman needs to have intercourse with her husband. Despite the vagueness in the inscriptions associated with fertility, I think we need to read these *iamata* as accounts of the women being ‘cured’ when they leave the temple as in the case of the other conditions.

Although both men and women attended healing sanctuaries, our evidence (albeit limited) suggests that it is only women who attend concerning fertility.<sup>213</sup> As a visit to the healing sanctuary can be seen as treatment for infertility, this follows the pattern I described in the previous chapter, namely that the treatment for infertility lies very firmly in the female domain. There is no suggestion of male infertility in the inscriptions from Epidaurus; however, the vague nature of these inscriptions, especially regarding the reason the woman needs help to conceive, means that the possibility of male infertility playing some role cannot be dismissed entirely. As I have described in this thesis, in modern medicine male infertility is often treated via the female body. In the following inscription from a sanctuary at Lebena dating from the second century BC there is a suggestion of this happening in antiquity:

Φαλάρει Εὐθυχίῳνος Λεβη- [να-  
 ίῳ οὐ γινομένῳ τέκνῳ ἰόντος ἐν π-[εντή-  
 κ]οντα ἤδη φέτεθι προσέταξε τὰν γυ-[ναῖ-  
 κα ἐφευδησίονσαν ἀποσστήλῃαι καὶ - [ἐπ-  
 ευθ<όνσ>αν ἐς τὸ ἄδυτον ἐπέθηκε τὰν σικ[ύαν  
 ἐ]πὶ τὰν γαστέρα κήκέλετο ἀπέρπεν [ἐν  
 τά]χει κήκύσατο.

The god ordered Phalaris, the son of Euthychion, of Lebena, who had no children and was already in his fiftieth year, to send his wife to sleep in the Temple, and when she

<sup>213</sup> Out of the 70 tales, the gender of the suppliant can be determined in 60 cases. 45 cases have a male suppliant with only 15 being from women. A third of these as we have seen relate to a desire to conceive. The other cases are a prolonged pregnancy (A1), blindness (A4), dropsy (B1 and C6), worms (B3), false pregnancy (B5), stomach pain (B21), muteness (C1), tumour on hand (C2), missing treasure (C3).

entered the Adyton he put the cupping instrument on her belly and ordered her to leave in a hurry and she became pregnant.

(*Inscriptiones Creticae* I, xvii, no.9; trans. Edelstein, 1945, p.239-240)

In this case, the woman attends the sanctuary and undergoes the treatment. However, it is not clear whether the concern for the couple's fertility is believed to lie in her or her husband. It is stressed that Phalaris 'was already in his fiftieth year' and this seems to be the reason that a quick solution to the couple's childlessness needed to be sought.<sup>214</sup> It is possible that this is a case where an issue of male fertility is solved by treatment of the female body. However, although Phalaris's advancing age could be the reason for concern in itself, it is possible that the cause of the couple's infertility was assumed to be in his wife. If female infertility was presumed over male infertility then it would not need to be stated, and the concern regarding Phalaris's age was for the future rather than the present.<sup>215</sup> This source suggests that although it is women attending the healing sanctuaries in order to become pregnant we should not assume that the couple's fertility issues are viewed as the woman's problem.

The inscription from Lebena gives us a further piece of information concerning how a woman may have found herself visiting the temple. In this case, the husband, on the advice of a god, instructs his wife to attend the temple. In the cases from Epidaurus, we only see the woman who is being treated and the impression is given that this is a pursuit of the individual and more specifically the female. However, in the case from Lebena it is Phalaris who seems to provide the impetus for his wife's visit. The place names given on the *iamata* tell us that these women were travelling long distances to ask the god for help. Helen King (1998, p.110) has suggested that temple medicine can be seen as a family rather than individual pursuit, as support would be needed to allow an individual to attend the temple. Presumably, each of these women would have needed not only financial support from their husbands but also their permission. Flemming (2013, p. 587)

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<sup>214</sup> As stated in chapter 1 it was accepted in antiquity that both males and females had a natural end to their childbearing years.

<sup>215</sup> Flemming (2013, p. 587) also notes that the female body is the focus of attention and makes the connection to modern studies of infertility.

suggests that in the case of Andromache her husband Arybbas must have been involved, if not actually being behind Andromache's decision to travel. Although only the supplicant would have been allowed into the Abaton, one would assume either their husband or at least one relative would have accompanied the woman on what was potentially a long journey.

It is not clear whether the woman had visited her doctor or undergone any treatment before appealing to the god. Flemming (2013, p. 589) suggests that while the patient could have approached the god after treatment by the physician had failed, because of the nature of the divine the order could easily be reversed. Wickkiser (2008, p. 58–61) suggests that the specialisation of Asclepius is chronic conditions and that the *iamata* emphasise the amount of time a patient had suffered with a condition before approaching the temple. Examples of this include Kleo's five year pregnancy [A1], Euhippos [A12], a man who had a spear lodged in his jaw for six years and a man named Gorgias [B10] who had an arrow festering in his lung for a year and a half. While these timeframes were probably exaggerated to some degree, Wickkiser states that they do suggest in these types of causes that the patient was likely to have already tried other types of healing before approaching the sanctuary. Although I am tempted to agree with both Flemming and Wickkiser that people approached the sanctuary with more long term conditions which may or not have been treated first by a physician, I do not feel there is enough evidence to make a firm conclusion.

### Oracles and fertility

The two main oracles from which we have evidence of people inquiring about the possibility of children are those at Dodona and Delphi. There have been 1,400 tablets dating from the sixth to second centuries BC discovered at Dodona since excavations began in the nineteenth century, although only a small number of these have been published.<sup>216</sup> The requests are generally addressed to Zeus 'Naos' or 'Naos' and sometimes to the goddess Dione and cover a wide range of subjects including general prosperity, business and political concerns and advice on travelling.

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<sup>216</sup> Esther Eidinow in her book *Oracles, curses and risk among the ancient Greeks* (2007, p. 72–124) lists all the published tablets from Dodona but there remains a lot of material which is unpublished.



Many of the tablets relate to health, and these include general questions concerning whether someone will be cured from a disease and particularly which god the person should pray to, and questions relating to specific areas of the body.<sup>217</sup>

Esther Eidinow (2007, p. 87–93) has identified 18 questions from Dodona in the published material which relate to the production of children, and as they include some of the oldest questions it may suggest the importance of having children in ancient society.<sup>218</sup> There were two main types of questions asked of the oracle regarding children. The first was simply an enquiry into the future, for example ‘will I/we have a child?’ and the second was to seek advice, ‘what can I/we do in order to have a child?’<sup>219</sup> Infertility is not mentioned explicitly in any of the questions to the oracle that survive, nor is there any direct reference to a couple struggling to conceive. However, as we shall see, those enquiring about matters associated with fertility are concerned that a child may not be forthcoming, whether or not they were currently trying to have a child or were thinking of doing so in the future.

The questions posed to the oracle in relation to children are asked in several ways. The first is a general inquiry as to whether there might be children in the future, for example:

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<sup>217</sup> An example of a general question is 3. Parke 13 from the fourth to third century BCE Θεός . τύχα . ιστορεῖ Λεόντιος περὶ τοῦ υἱοῦ Λεόντος ἥ ἔσσεται ὑγεία τοῦ νοσήματος τοῦ ἐπιμ ... του ὃ λάζεται νιν ‘God. Luck. Leontios asks about his son Leon, whether he will be healthy and (cured) of the disease which has gripped him?’ (Eidinow, 2007, p. 105) An example of a specific query is 10. Parke 14 [Θ]ρασύβουλος τί νι κα θεῶν θύσ[ας] καὶ ηἰλαξάμενος τὸς ὀπιλ[ος] ὑγιέστερος γένοιτο; ‘Thrasyboulos (asks) by having sacrificed to and appeased which of the gods, would he become healthier with regard to his eye?’ (Eidinow, 2007, p. 107)

<sup>218</sup> In addition to the questions specifically relating to children there are questions asking whether marriage would be beneficial, for example περὶ γυναικὸς πότερον κα τ[υ]γχάνοιμι λαμβάνων Κλέολαῖν ‘About a woman, whether I will be fortunate taking Kleolais as a wife?’ (1. Ep. Chron. 1935: 257, 18; side b, ii; Eidinow, 2007, p. 89–90). When posing these questions the man may be enquiring whether the marriage would produce children but may also refer to whether the marriage would be generally prosperous or may help to increase his status, wealth or career. There are also questions of paternity raised for example Ερωτή Λυσανίας Δία ναον καὶ Δηῶνα(ν) · ἡ οὐκ ἀστί ἐξ αὐτοῦ το παιδαριον ὃ Αννύλα κυε ‘Lysanias asked Zeus Naos and Dione whether the child with which Annyla is pregnant is not from him?’ (Parke 11; SGDI 1565a; Karapanos 1878: pl. 36, 2; Doric dialect; second century BCE; Eidinow, 2007, p. 120).

<sup>219</sup> Dillon (2002, p. 30) has suggested that people came to the oracle to find out why they were childless and what they could do about it. However, I cannot find any evidence that people enquired *why* they were having fertility issues. Flemming (2013, p. 583) suggests that actually the cause of reproductive failure is rarely mentioned outside the medical texts and that infertility ‘is a problem that needs a solution not explanation’.

[θε]ός<sup>2</sup>

κα(ι) τὰν [Διώναν]

[γε]ν[ε]ῖαι αὐτ[οῦ]

[εἰζ τὸ]ν ἔπ[ε]τα χρόνον]

Zeus and Dione, will there be children in the future for him?

(12.SGDI 1577b; Eidinow, 2007, p. 92)

In this example, there is no sense that the person inquiring is currently attempting to have a child, let alone struggling to do so, and it seems to be a general enquiry into the future. There is also no indication that the inquirer is currently married and in many of the questions this is not the case, for example:

Κλεάνορι περί γενεᾶς πατρούχο ἐκ τᾶς νῦν Γόνθας γυναικός

For Kleanor, about offspring to inherit, from Gonthe, the wife he has now

(2.Ep. Chron. 1935: 255, 15; fifth to fourth century BCE; Eidinow, 2007, p. 89)

In this example, the husband asks whether he will have children with his wife, and here both parties are mentioned by name. The phrase ‘the wife he has now’ is interesting. Eidinow (2007, p. 89) suggests that the implication of this phrase may be that the man considered his relationship as temporary, especially if children were not forthcoming.<sup>220</sup> While this may be the case, there are many possible reasons that Kleanor chose to phrase his question in this way. Asking a very specific question would increase the chances of the answer being accurate; if Kleanor simply asked ‘will I have children?’ or ‘will I have children with my wife?’ there is a chance of

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<sup>220</sup> The same phrase is used in another example: ‘Ηρακλ[ε]ίδας αἰτεῖ τὴν Δία καὶ τὴν Διώνην τύχην ἀγαθὴν καὶ τὴν θεὸν ἐπερωτᾷ περὶ γενεῖης · ἥ ἔστα[ι] ἐκ τῆς γυναικίς- Α[ἰ]γλῆς τῆς{\*} νῦν ἔχει ‘Herakleides asks Zeus and Dione for good fortune and asks the god about offspring. Will there be any from Aigle the (wife) he has now?’ (5.Parke 7; SGDI 1561a = Pomtow 24; puts two inscriptions together (Karapanos1878: pl. 38, 4 and pl 35, 1); Eidinow, 2007, p. 90).

misunderstanding. A misleading answer may not be just because of a marital split, as Eidinow suggests, but he may be considering the possibility of the death of his spouse or even an illegitimate child. Another consideration is that the man may have had children from a previous relationship. This seems to be the case in another question:

Ἑρμῶν τίνα κα θεὸν ποτθέμενος γενεὰ οἱ γένοιτο ἐκ Κρεταίας ὀνάσιμος ποτ τᾷ  
ἑάσσαι.<sup>221</sup>

Hermon (asks) by aligning himself with which of the gods will there be from Kretaia offspring for him, in addition to those he has now?

(1.Parke 5; PAE (1931: 89–91); Boustrophedon; end of sixth/beginning of fifth century BCE; Eidinow, 2007, p. 89)

The querying from Kleanor and Hermon of whether their current marriages would produce children suggests there is some concern whether the marriage will be a productive one. This may indicate that infertility was already a concern for the couple, although this analysis is far from a certainty.

Enquires that were made at the oracle were not limited to asking whether someone would have a child. Advice on a course of action is also requested, for example where Hermon asks which gods he should align himself with in order to have children above. In another example, a couple simply ask what they should do in order to have children:

Θυῖς τύχα ἀγαθὰ : Βῶκόλῳ κὴ Πολυμνάστῃ  
τί κα δράοντοιν ἡγία κὴ γενιὰ κ' ἀνδρογένεια  
γινώο[ι]το κὴ παραμόνιμος ἰοιδ[ς] κὴ χρῆμάτων  
ἐπιγγ[ύ]ασις κὴ τῶν ἰόντων ὄνασις

<sup>221</sup> Eidinow (2007, p. 89) states that the last clause is difficult to read and suggests that ὀνάσιμος may agree with the children that Kretaia will have or may refer to Hermon himself. Onasimos could be the name of another man and questions whether τᾷ ἑάσσαι means existing children or could be the Doric form of the feminine dative participle and mean ‘a delight for Kretaia’.

God, good luck. Bokolo and Polymnaste (ask) what they should do for there to be health and offspring like their father and a male child<sup>222</sup> that will survive and security of things and enjoyment from things to come.

(13.Christidis; 450–425 BCE; Eidinow, 2007, p. 92).

This question is also interesting because it is the only example we have where the question is asked from both partners in the couple, although as Eidinow (2007, p. 87) points out it does not mean that both partners are present at the oracle at the time. Most of the questions directed oracles relating to children are from men. There is some evidence that women did consult the oracle regarding children at Dodona, however. This comes in the form of a question which was evidently asked by a woman, which we can tell from the gender of the participle (Eidinow, 2007, p. 87).<sup>223</sup>

Ἀλλεῖ E[---]

θεμένα

[ἔσσ]εταί μοι

[γ] εγεῖ

If I ... dedicate to another (?) will there be children for me?

(15.Christidis; 400–350 BCE; Eidinow, 2007, p. 92)

From these examples, we can see that both men and women asked the oracle about the likelihood of becoming parents. However, the number of dedications from men compared to those that can be identified as being from women suggests that consulting the oracle was largely a male-led activity. Eidinow (2007, p.88) suggests that this gender bias fits into the wider literary accounts of oracle visits.

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<sup>222</sup> This is one of the few examples where a wish for a male child is specified although Eidinow (2007, p. 88) does suggest that there are further examples in the unpublished material.

<sup>223</sup> Eidinow (2007, p.88) states that Dr. Christidis informed her that in the unpublished material women do appear asking about their own prospects of having children albeit infrequently. Eidinow does suggest that another of the questions in the published material may have been from a woman due to participle of the verb for consulting being feminine Πότ[ερ]ον ἐμ[οί]χρωμένη γίνεται αὐτῇ τέκνα ‘Whether there will be children for me, if I consult the oracle?’ (9.Ep. Chron. 1935: 258, 27; fifth century; Eidinow, 2007, p. 91).

However, some literary accounts suggest that while women rarely ask the questions, they may have still been actively involved in the consultation. In Euripides' *Ion*, both Creusa and Xuthus travel to Delphi in order to ask the oracle if they will have a child as they are currently childless, despite wanting to conceive (here infertility is definitely the cause of their visit). It is Xuthus who enters the temple of Apollo to ask the question while Creusa remains outside. While this is a fictional account of an oracle visit and Creusa's attendance is essential to the plot, it raises the possibility that a couple could travel together to the oracle, but that the man actually asks the question. In the play, we do not hear Xuthus actually ask the oracle his question so we do not know whether he asked on his own behalf or named Creusa as well, considering her close proximity. Matthew Dillon (1997, p. 192) has pointed out that as Ion asks Creusa whether she has come 'with her husband or alone to consult the oracle?' a woman consulting an oracle about these matters may not be unusual.

As discussed in the previous chapter in some theories of conception in the ancient world, particularly those of Aristotle, men are seen as contributing the crucial ingredient for conception. Eidinow (2007, p.88) suggests that the gender bias of men approaching the oracle more frequently than women for this matter may reflect these theories. She further suggests that the cultural evidence also explains the bias, giving as an example the language of the Athenian betrothal ceremony in which the father of the bride gives his daughter away with the words 'I give you this woman for the ploughing of legitimate children'.<sup>224</sup> The words of the Athenian betrothal ceremony do suggest that children were culturally important and an expected product of marriage, but this does not automatically explain why men were more likely to consult the oracle. I do not accept the idea that Eidinow puts forward, namely that the belief that men provided the crucial ingredient towards conception explains the gender bias at the oracle. If this were the case, then surely we would find more instances of male infertility in the texts. There is no real sense in the queries to the oracles that the man believes himself to be or potentially be the source of any fertility problems. In fact, as the questioners mainly ask 'will I have a child with my wife?' this

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<sup>224</sup> See p.29 for the ancient Greek.

suggests that the man is more concerned with his wife's ability to produce children than his own.<sup>225</sup>

The literary tradition on approaching the oracle for advice regarding children also provides an idea of the types of responses the oracle may have given. In *Ion*, Euripides does not supply the actual words of the response of the oracle, but Xuthus tells us that the god has informed him that the first man he meets after leaving the oracle will be his son. The man he meets is of course Ion, who is actually Creusa's son, whom she left to be exposed after his birth as he was the result of her being raped by the god Apollo. In the literary and mythological tradition, consulting an oracle with regard to children can often end in tragedy. The most famous example of this is King Laius's consultation of the Delphic oracle. When King Laius asks 'How may I have a son?' the reply is not a simple one, he is told if he does have a son then he will be killed by him. Unfortunately, King Laius does not heed this advice and his son Oedipus is born and does indeed kill his father (Fontenrose, 1978, p. 362).

When we turn back to the dedications from the oracles themselves, we see that there were other, more positive outcomes from consultation of the oracle. An inscription from Delphi gives us an example of this:

[--- Φοῖ]βος γενεὰμ μαντεύμασι δῶκεν

εὐχῆς ἐξαΐων, κομίσαι τε κόμας προσέταξεν

Phoibos granted me children with his oracles, heeding my prayer; he instructed me to bring a hair-offering.

(Eidinow, 2007, p. 50; Inscription of Delphi, FD 3.1.560 (= BCH 80 (1956) 550, l.3); Fontenrose H34; P/W 334; c.360 BCE.)

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<sup>225</sup> The emphasis in these questions on the wife may also be ensuring accuracy in the answer from the gods. If the question was 'Will I have a child?' the answer would only tell the man that he would conceive a child but not whether this would be with his wife or an illegitimate child.

The consultation of the oracle about matters relating to children seems to have been a relatively frequent occurrence. We have no way of knowing whether a person or couple would consult the oracle before, during, or after treatment from a doctor for infertility. Eidinow (2007, p.89) suggests that a visit to the doctor to resolve problems of conception was likely to have been accompanied by a visit to an oracle, and Flemming (2013, p. 569) suggests that a person may have either sought advice from the gods as a first resort or, alternatively, after trying other remedies and medical treatment. What we do know is that both men and women were asking the gods for help with their fertility. Sometimes the inquirer is seeking advice but often it appears that they are simply seeking reassurance that a child will be part of their future.

### Conclusion

The aim of this chapter was to explore how practical responsibility for infertility was shared between the doctor and the two partners in the couple. I used the regimens for fertility given in the Hippocratic Corpus to suggest that the doctor's involvement in the fertility of the couple may have begun before any infertility issues were raised.

The evidence from the healing sanctuaries suggests that only women attended these sites in their search for children. However, the vagueness of the language in the *iamata* does not inform us of the medical issues that lead these women to ask the god for help. Conversely, the enquires for children at oracles suggest that this was a male led activity and shows that the male partner took some responsibility for the couple's fertility.

## Chapter 7.

### Blame and infertility

‘Whatever’s wrong with us, there might not be a cure, but there’s always a culprit.’

(Campbell, 2012, p. 15)

‘When things go badly, as they must, the question of who to blame is invariably raised  
in all ways of life.’

(Thompson, 1990, p. 204)

Blame and infertility are frequently linked in modern society. In the last 30 years, studies on modern infertility have explored the connection between blame and fertility problems in great detail; this is especially true in the fields of sociology, medicine and psychology.<sup>226</sup> I have already touched on some of these studies in previous chapters, especially Marcia Inhorn’s (1994, 1996) work on blame in couples in modern Egypt. Generally, these studies stress that, whether or not the physical cause of infertility is assumed to be in the female body, it is commonly the woman who is labelled by society as the infertile partner. In this chapter, I shall discuss how the relationship between blame and infertility operated in the ancient medical texts.

Blame is a difficult concept to define as it encompasses many different factors and can have different meanings depending on the context. The quotations given above, which stem from a modern sociological viewpoint of blame, suggest that whatever happens people seek something or someone, whether themselves or others, to blame in order to explain how a situation has arisen. However, as I shall show in this chapter and the next, infertility and blame have a complex relationship in the ancient world. Although blame is associated with infertility, as I shall show, it is used in a very specific set of circumstances in the ancient medical texts.

Blame, with the associated concepts of guilt and shame, has been of interest to scholars of the ancient world since the middle of the last century. The anthropologist Ruth Benedict (1946)

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<sup>226</sup> The scholarship in this area is vast. The leading figure is Arthur Greil (for example 1991b, 1991a) who has produced two reviews of literature (2010; 1997) which detail the developments in this field.



suggested that the move from a shame culture to a guilt culture was a sign of moral progress. E.R. Dodds (1951) applied Benedict's ideas to the ancient world, suggesting that the warrior society in Homeric epics was a shame culture in which people's public reputation was paramount. Dodds further suggested that in the fifth century BC Athenian society began to move away from a shame culture and moved towards a guilt culture, in which personal conscience was the leading factor, but that this was only fully developed with the arrival of Christianity.<sup>227</sup> Following Dodds' argument we would expect to find blame for infertility in the ancient medical texts sitting somewhere between shame and guilt. As I shall show in this chapter and the next, public reputation certainly played a part not only for blame being associated with infertility but also in cases where we find attempts to distance blame from infertility.

There are several possible scenarios in which blame can be associated with infertility. Mary Douglas (1992, p. 5–6) states that from an anthropological point of view blame can act in three ways, giving the example of when a person dies and the three blame-related responses to the question 'why did she die?'. The first possible response is moralistic: she died because she had offended ancestors, broken a taboo or sinned in some way. The second is one in which the death is attributed to the individual's own shortcomings, that is she was not quick enough or clever enough in looking after her own interests. Finally, the death may be blamed on an outside enemy; she died because of an enemy of the community, either from outside the community or hidden within. It is possible to transfer this three-tiered idea of blame to infertility. First, one or both partners could be blamed for their infertility either because of an action they have performed or one which they have failed to perform. This could be a physical action undertaken on the body or due to moral failing which has led to anger from the gods. The second tier could compromise the natural shortcomings of the body and, as we have seen, the ancient medical writers believed that a person could be infertile because of the natural state of their body. Finally, blame could be placed on an outside agent, for example a doctor or midwife.

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<sup>227</sup> More recently Konstan (2006, p. 92–93) has argued that in ancient Greece and Rome shame and guilt did not exist as two separate concepts but that shame also covered most aspects of modern guilt. Konstan's book *Emotions of the ancient Greeks* (2006) provides a detailed discussion of how ancient Greece society viewed different emotions.

In chapter 5 I explored how modern scholars sometimes describe ‘blame’ associated with infertility being placed on the female when they are describing which partner the infertility was thought to stem from. This type of blame has been described as ‘whodunit’ or ‘whatdunit’ by Elizabeth Lane Beardsley (1969).<sup>228</sup> This concept has been explained by Coates & Tognazzini (2013b, p. 7–8) in the following way ‘If your car won’t start in the morning, some simple diagnostics may reveal that the culprit is a dead battery. In a causal sense, then, your dead battery may be *to* blame for your being late to the office.’ This ‘whodunit’ theory fits how ‘blame’ is often applied to infertility by modern scholars. When modern scholars, whether right or wrong in their assertion, state that women are to blame for infertility often they are expressing this causal link. That is, the couple’s infertility is viewed as stemming from the woman’s body but this does not necessarily mean that any moral judgement is being passed.

However, there is also a general assumption in classical scholarship that women in the ancient world were not only held responsible for their and their husband’s infertility but would also suffer consequences for a marriage lacking children. The basis for these arguments is often the much-repeated statements about the importance of marriage and the production of children. Perhaps the most famous declaration on the purpose of marriage in ancient Greece is from Xenophon. Xenophon claimed that lust was not the reason men had children as there were many prostitutes who could satisfy this but that ‘We obviously select as wives the women who will bear us the best children and then marry them to raise a family’ (*Mem.*11.2.4; trans.Marchant et al., 2013, p. 115). Similar remarks can be found in many ancient texts especially in drama. Euripides’ plays contain a number of characters whose laments highlight the importance of having children; for example, in *Suppliant Women* (1087-89) Iphis describes men passionately desiring children and the chorus in *Ion* (472-91) also describe the importance of having children.<sup>229</sup> This ancient view of the

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<sup>228</sup> The scholarship regarding the various types of blame is large and complex and cannot be discussed in detailed here. The best overview of this subject is offered in the collection of essays edited by Coates & Tognazzini (2013a).

<sup>229</sup> Although ancient authors express the importance of having children they also describe how having children can create its own problems. Xenophon, after describing the importance of children, goes on to say that women conceive, bear the burden of pregnancy and the risk of childbirth followed by work day and night to raise the child and yet they still do not know what they will get in return (*Mem.*11.2.5). Whilst he describes that importance of having children, Euripides too talks about the risks involved. In *Medea*, the

purpose of marriage has led scholars to suggest that children were not just hoped for but that reproduction was the ultimate purpose of both marriage and women more generally. For example Roger Just (1989, p. 40) states that 'Every Athenian girl was expected to be married and marriage and motherhood were considered the fulfilment of the female'. Simon Byl (1990, p. 305) suggests that, as fertility and infertility were an important social concern, the writers of the Hippocratic Corpus, by looking at fertility and infertility, were addressing this.

Other scholars have suggested that a man not only expected to have children but that he expected every act of intercourse to result in his wife becoming pregnant. Hanson (1990, p. 327) suggests that the idea of the gods expecting every act of intercourse with a woman to result in a pregnancy, when taken alongside the many therapies in the Hippocratic Corpus for infertility in women, suggests that 'the Greek man also felt his lovemaking should result in a child, unless the reproductive apparatus of his partner was defective'. The evidence she uses is Poseidon's declaration, after loosening Tyro's virgin girdle in the *Odyssey*, that 'when the year passes you will bear glorious children, for the couplings of immortals are not without issue' (Hom.*Od.*11.245-52; trans. Lattimore cited in Hanson, 1990, p. 327).<sup>230</sup> Although the gods may well have expected to produce a child with every act of intercourse I do not agree with Hanson that every mortal man had the same expectation.

Jouanna (1999, p. 175) suggests that '[b]arrenness was felt by women to be a sort of defect, on account of which their husbands might repudiate them'. This idea that the woman has a 'defect' which will lead them to be shunned by their husbands suggests that the ancient Greeks not only thought women were the cause of infertility but also that it was something that women could be

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chorus laments that those who are 'without experience of children and have never borne them have the advantage in good fortune over those who have. For the childless, because they do not possess children and do not know whether they are a pleasure or a vexation to mortals, hold themselves aloof of many griefs' (Eur.*Med.*1090-1115; trans. Kovacs, 1994a, p. 383-385). Euripides goes on to stress the anxiety of bringing up children and like Xenophon Euripides stresses that even after all the work is put in you do not know if your children will be worth it. Similarly Euripides has Andromache ask 'why did I need to give birth and double the burden I bear?' (394-5; trans. Kovacs, 2005, p. 311).

<sup>230</sup> cf. Chong-Gossard (2008, p. 16) who uses the same evidence to state that if conception did not occur after intercourse 'then the woman was suspect; either she was physically defective and in need of treatment, or she had willingly destroyed the seed to avoid pregnancy'.

blamed for.<sup>231</sup> There is little doubt that marriage and children were important aspects to life in ancient Greece. However, as I shall show, the consequences of not adhering to the social need for children in ancient Greece are less clear.

In this chapter, I will focus on whether anyone is held responsible for either their own or someone else's infertility and more specifically whether a person's actions were said, either directly or indirectly, to be a cause of infertility. I shall demonstrate that some blame was attached to infertility in the ancient medical texts; however, in the Hippocratic Corpus this is limited to very specific circumstances. In chapter 8 I shall show that distancing blame from infertility played not only a role in the Hippocratic Corpus but also more generally in ancient Greece.

To explore how blame may have worked in the Hippocratic Corpus the focus of this chapter will be on the relationship between doctor and patient and the glimpses of non-Hippocratic healers found in these texts. The author of *Epidemics* (1.2.11 L.2.636.1-4) states that medicine comprises three elements - the disease, the patient and the physician - and that in order to combat the disease the patient must co-operate with the doctor. This relationship between doctor, patient and disease gives us the opportunity to see where blame and infertility might have been connected in the Hippocratic texts. I shall begin by looking at the idea of how much involvement women may have had in their own treatment and the concept of the 'experienced' and 'inexperienced' woman in the ancient medical texts. I shall use this evidence to help understand how blame was associated with infertility in relation to mis-administered and delayed treatment. The final section will return to the infertility of the Scythians as described in *Airs, Waters, Places*.

#### Experienced and inexperienced women

To investigate the Hippocratic writers' view of the female patient's role in both her diagnosis and treatment, and how this may have led to blame for infertility, we need to examine the wider issue

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<sup>231</sup> The idea of blame being used in this way is not limited to scholarship on the Hippocratic texts: we find similar uses on works concerning Aristotle. For example, Van der Eijk (1999, p. 490) also describes blame, this time in book 10 of *HA*. 636b11-13; cf. 637b23-24, where the author explains a test to tell if semen is fertile is undertaken '...if you want to find out whether the man "is to blame"'.

of women as patients in the Hippocratic texts. Ann Hanson, in her 1990 paper ‘The medical writers’ woman’, suggested that for the ancient Greek medical writers there were two types of women, the woman of experience and the woman who lacks experience. This idea has been widely accepted in scholarship; however, where the boundaries lay between inexperienced and experienced, and how active an experienced woman could be in her own diagnosis and treatment has continued to be debated.<sup>232</sup>

A passage from *Diseases of Women* (1.62 L.8.126.4.-17; trans.Hanson, 1975, p. 582) outlines the problems that occur in inexperienced women:

γίνεται δὲ πάντα μᾶλλον μὲν τῇσιν ἀτόκοισιν, γίνεται δὲ πολλάκις καὶ τῇσι τετοκυῖσιν· ἐπικίνδυνα δὲ ἔστιν, ὥς εἴρηται, καὶ τοπουλὺ ὀξέα καὶ μεγάλα καὶ χαλεπὰ ξυνιέναι, διὰ τοῦθ’ ὅτι αἱ γυναῖκες μετέχουσι τῶν νούσων, καὶ ἔσθ’ ὅτε οὐδ’ αὐταὶ ἴσασιν τί νοσέουσιν, πρὶν ἢ ἔμπειροι νούσων γένωνται ἀπὸ καταμηνίων καὶ ἔωσι γεραίτεραι· τότε δὲ σφέας ἢ τε ἀνάγκη καὶ ὁ χρόνος διδάσκει τὸ αἴτιον τῶν νούσων, καὶ ἔστιν ὅτε τῇσι μὴ γινωσκούσῃσιν ὕφ’ ὅτευ νοσεῦσι φθάνει τὰ νοσήματα ἀνίητα γινόμενα, πρὶν ἂν διδαχθῆναι τὸν ἱητρὸν ὁρθῶς ὑπὸ τῆς νοσεούσης ὕφ’ ὅτου νοσέει· καὶ γὰρ αἰδέονται φράζειν, κῆν εἰδῶσι, καὶ σφιν δοκέουσιν αἰσχρὸν εἶναι ὑπὸ ἀπειρίας καὶ ἀνεπιστημοσύνης. ἅμα δὲ καὶ οἱ ἱητροὶ ἀμαρτάνουσιν, οὐκ ἀτρεκέως πυνθανόμενοι τὴν πρόφασιν τῆς νόσου, ἀλλ’ ὥς τὰ ἀνδρικὰ νοσήματα ἰώμενοι· καὶ πολλὰς εἶδον διεφθαρμένας ἤδη ὑπὸ τοιούτων παθημάτων.

All these diseases, then, happen more frequently to women who have not borne a child, yet they also happen to those who have. These diseases are dangerous, as has been said,

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<sup>232</sup> In this area of scholarship there have also been debates over how much traditional ‘women’s medicine’ was disseminated through the Hippocratic Corpus, an area which had already begun being debated prior to Hanson’s in/experienced women. At one extreme Manuli (1983, p. 155; cited in Dean-Jones 1995, p. 41) suggests that the Hippocratics treated the female body like a blank canvas on which they project their theories: at the other Rousselle (1988, p. 25–6) sees Hippocratic treatment essentially transferring the female oral tradition into a written male one. Dean-Jones (1995, p. 42) suggests that most scholars lay in between these two extremes. For example, Hanson (1990, p. 309–310) has Hippocrates taking the female oral tradition and making it work into male theory. King (1995b, p. 141) suggests that Hippocratic medicine was neither a male system to oppress women nor a male take-over of women’s traditional knowledge but one within which women as patients could become active agents in their own diagnosis and treatment.

and for the most part they are both acute and serious, and difficult to understand because of the fact that women are the ones who share these sicknesses.<sup>233</sup> Sometimes women do not know what sickness they have, until they have experienced the diseases which come from menses and they become older. Then both necessity and time teach them the cause of their sicknesses. Sometimes diseases become incurable for women who do not learn why they are sick before the doctor has been correctly taught by the sick woman why she is sick. For women are ashamed to tell even if they know, and they suppose that it is a disgrace, because of their inexperience and lack of knowledge. At the same time the doctors also make mistakes by not learning the apparent cause through accurate questioning, but they proceed to heal as though they were dealing with men's diseases. I have already seen many women die from just this kind of suffering.

There are several different ideas that need to be explored here. The first question the passage gives rise to is what qualified a woman to be experienced? Both age and involvement in problems associated with menstruation would apparently help her to achieve this status. Hanson (1990, p.309) suggests that an experienced woman meant different things to different medical authors. It could be a prostitute, a woman assisting with another woman's examination or childbirth, or a woman who knows her body through her own experiences.<sup>234</sup> Hanson (1990, p. 309–310) states that the 'experienced woman' is cast in a positive light in the Hippocratic texts, which suggest that physicians could learn from the oral tradition of women, so that these women become the counterpart to the idealised male patient who could work with the doctor. However, other scholars have proposed a more complex view of the amount of agency an experienced woman possessed in her diagnosis and treatment.

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<sup>233</sup> The meaning of this line has been debated in scholarship. See Dean-Jones (1995, p. 50) for the different readings. Dean-Jones herself suggests that the point that the diseases are restricted to women and this in itself is the problem rather than simply women not telling men about them.

<sup>234</sup> For example, the author of *Carn.19* L.8.610.2-6 attributes his knowledge to the public hetaerae. In the text, *Nat.Puer.*13 L.7.490-492 the author describes how a singer girl has told him that she knew she had conceived because 'she had heard what women say to one another' (ὁκοῖα αἱ γυναῖκες λέγουσι πρὸς ἀλλήλα). See p.204-205 for full discussion of this passage.

In the passage above from *Diseases of Women* 1.62, there is a curious phrase, '[s]ometimes diseases become incurable for women who do not learn why they are sick before the doctor has been correctly taught by the sick woman why she is sick.' Here the emphasis is placed on the woman needing to tell a doctor what is wrong with her. This does not mean that she is meant to self-diagnose but that the more a woman understood her own body the better she could relay information about her symptoms to the physician (Dean-Jones, 1995, p. 57). Bourbon (2008b, p. 19) suggests that the use of ἀνάγκη ('necessity') in the passage above underlines that women face the facts and understand on their own the logic of their body, if only life leaves them time to do so; that is to say, if they do not suffer from a serious ailment when they are still young and inexperienced.

The author of *Fleshes* (19 L.610.2-4), describing how he knows what a foetus of seven days looks like, tells us that he gets his knowledge from prostitutes 'who have frequent experience with these matters' (αἵτινες αὐτέων πεπείρηται πολλάκις). Dean-Jones (1995) suggests that the author stating that the reader may wonder where he has learned this, and then citing his source as prostitutes could imply that, while this author felt his knowledge could be challenged, in this regard at least the knowledge of these women could not be. We also find the Hippocratic authors praising women for their knowledge. For example in the text *Eight Months' Child* (4 L.8.440-442) the author says that 'you should not distrust women about their giving birth, for they say what they know.' However, he does then go on to say that 'they are not to be persuaded by either fact or argument to believe anything contrary to what they know is going on inside their own bodies' (trans. Potter, 2010, p. 81). This could be read one of two ways; either the author is saying 'trust what women say about their bodies even if what you consider fact goes against what they are saying', or conversely that even when presented with fact these women are too stubborn to change their minds.

There were two types of knowledge a physician could employ: *autopsia*, his own observations, and *historia*, what he was taught by others (Dean-Jones, 1995, p. 42). Within these categories, there are two types of *historia*: that coming from others attending the same or similar diseases,

and that from the patient, with *autopsia* ultimately being considered more reliable than *historia*.<sup>235</sup>

The information the woman could give to the physician could be either information on her past medical history or from a physical self-examination. Examples of information being given regarding past medical history include the case where scarring was caused on the uterus by ulcers; this could be diagnosed through palpation of the woman or the woman informing him that she has had ulcers in the past (*DW*.3.213 L.8.410.3-4).<sup>236</sup>

However, this information is often queried by the Hippocratic authors. Sometimes the author uses qualifying statements. For example in *Epidemics* (4.20 L.5.160.6-7; cf. 4.22 L.5.162.4-8) the author tells us that a woman from Tenedos miscarried a 30-day-old male foetus adding 'so she said' (ὥς ἔφη). In another case in *Epidemics* (4.6 L.5.146.9-12) the author explains that the wife of Achelous suffered a miscarriage on the sixth day of treatment. He then tells us that she said she lost another foetus on the twentieth day ending with 'I do not know whether that was true' (εἰ ἀληθέα οὐκ οἶδα). Dean-Jones (1995, p. 49 note 25) suggests that here the author is not just questioning the correctness of the statement but also the truth. Lloyd (1983, p. 68) suggests that in these cases there is a clear distinction being made between the information the patient is giving and what the doctor can verify.

There is also some evidence that a doctor may have refrained from asking certain patients particular questions. In *Epidemics* (5.53 L.5.238.4-5) there is a description of Simus' wife aborting on the thirtieth day. The writer states that this event either happened upon her drinking something or spontaneously. Similarly in *Epidemics* (4.26 L.5.170.9), in the case of the niece of Timenes, the author states that he does not know if she was pregnant or not. Dean-Jones (1995, p. 49) suggests that in both these cases the answers to these questions would potentially be

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<sup>235</sup> Dean-Jones (1995, p. 43–45) suggests that it is possible in some cases *historia* was reported as *autopsia*. These include occurrences where an apprentice was left in charge and the doctor then put together notes, which had been reported back to him by the apprentice. King (1995b, p. 142) suggests that there is a possibility that the ancient medical writers are making up some of the examples of what women know in order to impress.

<sup>236</sup> There are many other examples in the gynaecological texts including *Nat. Mul.* 10L.7.326 where in a case of inflammation of the uterus the author advises that the woman should be asked if her menses bother her; cf. *DW*.1.59 L.8.118; *DW*.2.155 L.8.330.



important. The fact that they are not asked suggests either that the doctor felt the question could not be asked, or that he would not receive a satisfactory answer and that a man may be reluctant to trust the testimony of a woman. However, she also goes on to say that, whilst there may be reservations about the reliability of female testimony, ultimately the Hippocratics did defer to a women's innate knowledge of their own bodies from which men were for the most part excluded (Dean-Jones, 1995, p. 55)

One of the most frequently mentioned events that a woman of experience was expected to be able to notice was the closure of the mouth of the uterus when conception took place.<sup>237</sup> This is only one of the ways in which a woman may know that she has retained the seed. *Diseases of Women* (3.220 L.8.424.15-22) states that after a woman has had intercourse with her husband she will know she has retained the seed if her husband says he has ejaculated and she is dry. If the uterus rejects the seed on the same day then she will be wet and if this happens, she should continue to have intercourse until she does take up the seed.<sup>238</sup> In this example, it is unclear if the woman was expected to have this knowledge already, or whether the doctor would teach the woman what to expect as part of his consultation. Here it would seem that any woman could have the potential to recognise this phenomenon if she was taught or had already learned what to look for.

In other cases, it is clearly stated that an experienced woman did not need this explained to her. In *On Generation* (5 L.7.476.23-24) the author describes how, if a woman is experienced in giving birth (καὶ ἥν ἡ γυνὴ τόκων ἔμπειρος ἔη) and notices when the seed is retained, she will know on which day she conceived. In the text *Nature of the Child* (13 L.7.488-490) the author described how he had the opportunity to view a foetus six days after conception.<sup>239</sup> He says that the reason he knows it was a six-day-old foetus was because the singing-girl in question, knowing that a pregnancy would make her lose her value, had 'heard what women say to one another' (ὁκοῖα γυναῖκες λέγουσι πρὸς ἀλλήλας), that when a woman is about to conceive the seed does not run

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<sup>237</sup> See chapter 1 and 3 for discussion on this phenomenon.

<sup>238</sup> See p.133-134 for the full passage.

<sup>239</sup> See p.42 for the discussion of how the Hippocratic author uses this to explain his theory of conception.

out but remains inside. The singing-girl had understood and always paid attention to this, and when she noticed she had retained the seed, she had told her mistress who had called in the physician.<sup>240</sup>

The idea of a woman's knowledge and experience in these passages is interesting and raises the question of whether an infertile woman could ever be envisaged as 'experienced'. Presumably, a woman who had previously given birth but finds herself infertile at a later date, what today we would term secondary infertility, could be placed in the category of 'experienced'. Potentially a woman who had previously conceived but went on to miscarry could also be considered an experienced woman if she had had previous experience of reproductive diseases. The text themselves provide us with little evidence to make a definite conclusion on those women who had never given birth. However, there are some possible clues to guide us. In the example above from *On Generation*, the women who will be able to tell if they have conceived are described as ἐμπειρος, which the LSJ gives as meaning 'experienced with' and 'practised in a thing' but also acquainted with. So perhaps the author does not necessarily expect an experienced woman to have first-hand experience with these things but to have seen and heard of them, just as the singing-girl puts into practice knowledge she has from other women. There is no suggestion that the singing-girl has previously had children and the emphasis in this case is on second-hand knowledge. However, whether a girl who has just married would have been thought capable of putting this type of knowledge into practice without the type of guidance indicated in *Diseases of Women* 220 is never clear.

Although women could have this type of knowledge, the Hippocratic authors do seem to be cautious in dealing with knowledge provided by women. King (1995b, p. 143) states that while an ancient medical writer accepted the knowledge of women, they still made a judgement as to whose knowledge was acceptable and that 'within this finely balanced situation women's knowledge must be constructed within the parameters of the theory which states that the male is the appropriate provider of health care'. Dean-Jones (1995, p. 45) notes that generally the

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<sup>240</sup> cf. HA.582b10-12; 583a35; 584a.

Hippocratic authors only cite women's testimony as the source when they concur with the evidence given, such as the case of the singing-girl.

The lack of knowledge of inexperienced women could cause problems. Sometimes this may be simply confusing symptoms. For example in *Nature of the Child* (30 L.7.532-534) the author describes how wind in the uterus causes retention of the menses and women who later become pregnant believe the length of their pregnancy to be over 10 months which the author says is not possible. He states that 'women lacking this knowledge and experience reckon their pregnancy from the time when their menses stopped flowing and their uterus became raised' (trans. Potter, 2012, p.85).<sup>241</sup> However, it was not only on the grounds of inexperience that Hippocratic writers questioned a woman's knowledge; for example, *Fleshes* (19 L.8.610) states that women who are fatty and bilious do not know when they conceived (King, 1995b, p. 143).<sup>242</sup>

Another aspect to consider is the role of physical self-examination in the Hippocratic texts. On one hand the passage from *Diseases of Women* 1.62 at the beginning of this section indicates that there is a culturally induced problem, namely that women feel shame when discussing gynaecological problems with men (Dean-Jones, 1995, p. 48), but on the other we find examples of patients passing knowledge on and being examined by doctors. We find many examples in the gynaecological texts of self-examination. The most common formula is for a woman to examine herself and then report her findings to the doctor who then applies treatment. For example in *Diseases of Women* (3.230 L.8.438.10-11) the author describes how a hardening of the mouth or

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<sup>241</sup> Lloyd (1983, p. 81) has suggested that gynaecological problems were not the only disease that the Hippocratic authors found it difficult to understand and that evidence can be found in both the *Epid.* and *Off.* However, Dean-Jones (1995) suggests that in these cases they do not justify the lack of understanding by saying that he has not shared the diseases himself, in the way the authors of the gynaecological treatises do, as no male doctor could be expected to do this.

<sup>242</sup> cf. *Epid.*4.21 L.5.160.15 where it is stated that the wife of Antigones did not know whether she was pregnant. In addition, *Epid.*4.24 L.5.164.6-10 where the daughter of Tekomaïos is said to have become pregnant without any sign until vomiting began in the second month. Dean-Jones (1995, p. 46 n.17) suggests that the lack of symptoms must have been very early in the pregnancy and therefore this may be read as a lack of recognising conception.

neck of the uterus will be recognised by the woman palpating with her finger but it appears the doctor then applies the treatment of the pessary.<sup>243</sup>

It would be easy to suggest that female self-examination was a result of a social discomfort with a male physician intimately examining a woman's body. However, Dean-Jones (1995, p. 42) has pointed out that, while there may have been circumstances which prevented a physician gathering evidence based on his own observations, social awkwardness does not seem to be the case. There is evidence of doctors performing intimate examinations on patients, such as checking for the growth of a membrane across the mouth of the womb with the finger (*DW.1.20 L.8.60*). In another passage the author offers advice on what to do if the mouth of the uterus is so indurated that it will not admit his finger (*DW.2.163 L.8.342.12*).<sup>244</sup>

King (1995, p. 144, cf. 1998, p. 48) suggests that experience of Phrontis in *Diseases of Women* (1.40 L.8.96-8) represents the model patient. Phrontis notices that the lochial flow after the birth of her child was suppressed and that her vagina was painful. She then examined herself and, finding an obstruction, reported this to the doctor. As Phrontis had recognised these symptoms as unusual and informed her doctor, she was successfully treated. Her name, literally 'Thought', is however problematic as it seems too convenient; perhaps a manuscript error lies behind the passage.

In the Hippocratic texts, the involvement of women was not limited to self-examination: women could also administer the treatment prescribed by the doctor. Often the application of treatment is shared between the woman and the doctor. In a case of a woman who is menstruating as normal, but cannot conceive as the seed is not being retained, the advice given is to palpate the woman internally and then insert a pessary, this then being followed with the woman cleaning her uterus

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<sup>243</sup> Examples of women examining themselves are found repeatedly in the gynaecological Hippocratic treatises including *Nat.Mul.7 L.7.320.18-322.11*; *Nat.Mul.11 L.7.326.16-328.9*; *Nat.Mul.21 L.7.340.10-14*; *Nat.Mul.96 L.7.412.19*.

<sup>244</sup> cf. *Nat.Mul.6 L.7.320.2*; *Nat.Mul.8 L.7.322.12*; *Nat.Mul.13 L.7.330.14*; *Nat.Mul.35 L.7.378.1*; *Nat.Mul.36 L.7.378.23-4*; *Nat.Mul.39 L.7.382.16*; *Nat.Mul.42 L.7.386.8*; *Nat.Mul.45 L.7.390.4*; *Nat.Mul.46 L.7.390.17*; . Sometimes it is not clear who is examining the woman for example in *Nat.Mul.2 L.7.312.18* where it is stated that dropsy in the uterus is clear because the mouth of the uterus 'for to any who touch it, it seems dried up' ψαυούση γὰρ ἰσχνὸν φαίνεται (trans. Potter, 2012, p. 193–195).

(*Nat.Mul.*67 L.7.402.8). In another case of movement of the mouth of the uterus, the doctor palpates the uterine mouth to diagnose and then purges the uterus. The author then states that the woman should continue to apply treatment until one day before her menses (*Nat.Mul.*8 L.7.322.20-21).<sup>245</sup> It is not clear in this case whether it is the woman or the doctor who decides when the treatment should end.<sup>246</sup> In both of these cases, the doctor applies the initial treatment and the woman then completes her treatment; presumably the procedure is explained to the woman by the doctor during her initial treatment.

In some cases, the woman is directed to apply the treatment entirely on her own. There are cases where the doctor is advised to prepare a pessary and have the woman apply it herself (e.g. *Nat.Mul.*7 L.7.320.18-322.11; *Nat.Mul.*71 L.7.404.3-4; *Nat.Mul.*72 L.7.404.8-9). In one case, the author states that the doctor should have the woman mix and apply the pessary for her treatment (*Nat.Mul.*74 L.7.404.13-16). In book 3 of *Diseases of Women* (222 L.8.430.13-14) the author explains that a woman is given a clyster to place in the uterus herself as ‘knowing herself where to put it’ (trans. Potter, 2012, p. 357).<sup>247</sup> Dean-Jones (1995, p. 55) suggests that, whilst the physician may have more knowledge about the therapy, in this case the woman has a better understanding of her own body.

In the case of inexperienced and experienced women, we find that a woman who has learnt about her own body over time or has been able to learn about her body and treatment under the guidance of the Hippocratic physician could have some involvement in the diagnosis and treatment of her

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<sup>245</sup> There are many examples of the sharing of treatment in this way, e.g. *Nat.Mul.*2 L.7.314; *Nat.Mul.*6 L.7.320; *Nat.Mul.*25 L.7.342; *Nat.Mul.*66 L.7.402; *Nat.Mul.*109.7 L.7.424; *DW.*2.141 L.8.214.16; *DW.*2.146 L.8.322.3. Often, but by no means always, the sharing of the application of treatment occurs in treatment happening over several days, for example the fumigation in *Nat.Mul.*53 L.7.394, so the length of a treatment may have affected who was to apply it.

<sup>246</sup> In another case, the decision to end treatment is made by the woman. In a case of hardening of the uterus resulting in the woman being unable to become pregnant the author suggests that a vapour bath is prepared for the woman who then applies squill and continues to do so ‘until she says the mouth of her uterus is soft and wide open’ (*Nat.Mul.* 107 L.7.422.14-5; trans.Potter, 2012, p. 315).

<sup>247</sup> αὐτὴ δὲ εἰδήσει ὅκου δεῖ.

disease. However, her status as an experienced woman as well as the accuracy of her information was ultimately determined by the Hippocratic physician.

#### Mis-administering of treatment causing infertility

Although a woman may have a role in her own treatment, this was at the discretion of the Hippocratic physician, and therefore any treatment to be self-administered was under his guidance. As King states (1995b, p. 143) '[s]elf-knowledge is permitted but self-help is not'. The ability to be able to examine one's body and report to the doctor was seen as positive, but it was ultimately the responsibility of the doctor to interpret this information and prescribe treatment. Self-help, when mentioned at all, is mainly seen as bad (King, 1995b, p. 144) and was occasionally cited as a cause of infertility.

In *Diseases of Women*, the author tells us that the use of harsh treatments, particularly the use of excessive purging or fumigation, can weaken the uterus to such an extent that it cannot retain the seed. This damage can be recognised when the seed is released two or three days after intercourse and is thick and lumpy like mucus (1.12 L.8.48-50).<sup>248</sup> In another passage of *Diseases of Women* (1.67 L.8.140.15-16) the author describes how the uterus can be ulcerated by the use of acrid pessaries which are a result either of the woman treating herself or of treatment by others. Dean-Jones (1995, p. 45) suggests that this is the only time women's healers are explicitly criticised. Similarly, Hanson (1991, p. 81) notes that the author, in his criticism of women's use of harsh pessaries, is 'explicitly and self-consciously' distancing himself from home remedies and from women who produce lesions in either their own wombs or those of others by their own doctoring.<sup>249</sup>

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<sup>248</sup> See chapter 3 for discussion on why the semen is affected in this way. Similarly we are informed of women suffering from diseases after an abortion when the womb is not adequately cleaned (*Coac.* 505 L.5.700; cf. *DW.* 1.67 L.8.140).

<sup>249</sup> Lloyd (1983, p. 70 n.40) notes that it is not specified whether the patient or women's healers or both are involved in this case. However, while I agree that the author is disparaging self-treatment the Greek that states ἦν δὲ γυνὴ ἐκ τρωσμοῦ τρῶμα λάβη μέγα, ἢ προσθέτοισι δριμέσιν ἐλκωθῇ τὰς μήτρας, οἷα πολλὰ γυναῖκες ἀεὶ δρῶσιν τε καὶ ἡτρεύουσιν, καὶ τὸ ἔμβρυον φθορῇ does not suggest an explicit attack on women's medicine more generally.

However, Hanson (1991, p. 89–91) also states that a clyster used as a treatment for the pain caused by strong pessaries is given twice in later sections of *Diseases of Women* (2.209 L.8.404.1-5; 9-13) as a remedy for ulceration. King (1995b, p. 144) has suggested that this is an example of a negatively viewed piece of self-help, the pessaries being described alongside a remedy which may have also developed from self-help but which enters the Hippocratic treatises as an accepted treatment.

It is not just the mis-administration of a treatment by a patient that is mentioned in the Hippocratic Corpus, but also those treatments administered by other doctors. The criticisms of faulty treatment and diagnosis are not only found in the gynaecological treatises but are a common theme across the Hippocratic Corpus (Lloyd, 1983, p. 69). In some cases, we find a similar charge of inexperience as that levelled at women being aimed at doctors. In the opening passages of *On Ancient Medicine* (1.2 L.1.570) the author states that '[s]ome practitioners are good, while others are bad' and this would not be the case if medicine did not exist at all because all would be lacking in knowledge and experience. The author goes on to compare a bad doctor to a bad helmsman; when the seas are calm their ignorance is not revealed whereas in a storm their ship is lost through ignorance and error, and the same is seen with bad doctors trying to combat disease (*VM*.4-5 L.1.590). In other cases, it is the wrong treatment being employed. For example in *Diseases of Women* (1.2 L.8.20.14-16) the author criticises doctors who incise a tumour in a woman's groin instead of recognising it as suppressed menses.

### The importance of timeliness in treatment

Many of the examples I have described in this chapter share a common theme, the importance of the timing of treatment. In the case of Phrontis, it is stated that time also played a part in her successful treatment as, if left, the ulcers would have become worse. This is also emphasised in the passage from *Diseases of Women* (1.62 L.8.126.4-17) stating that diseases could become incurable if not treated quickly.<sup>250</sup> Delay in treatment in these cases is placed firmly in the hands

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<sup>250</sup> Bourbon (2008b) has emphasised that time in Hippocratic medicine is not just about acting quickly but at the right time. In *Praec.* 1 L.9.250.2 (trans. Jones, 1923, p. 313) the author states that 'Healing is a matter of time, but it is sometimes a matter of opportunity' (ἄκεσις χρόνων, ἔστι δὲ ἡνίκα καὶ καιρῷ). The

of the woman. The reason is a lack of experience and knowledge of her body resulting in a delay in treatment, which risks ending in death. In chapter 3, I discussed some of the diseases associated with infertility and how these diseases, if not treated quickly enough, became permanent.

The importance of quick treatment is repeatedly stated in cases of infertility, particularly in the first section of *Diseases of Women* 3. For example, here the author informs us that, in retention of the menstrual blood, the blood will obstruct the passage of the seed, which will stop the woman becoming pregnant. The author then notes that '[i]f the woman receives treatment at the onset, she will recover and become fertile, whereas if time has intervened, she will remain [infertile]' (3.213 L.8.410; trans. Potter, 2012, p. 335).<sup>251</sup> Here the blame is not explicit but is implied by the idea that treatment may not be applied quickly enough to be effective. It is also not clear whether the woman or the doctor is responsible for the delay in treatment; either the woman did not seek treatment for her condition when the symptoms first appeared, or the physician did not promptly administer treatment after seeing the patient.

Although there is definitely a sense of inaction being the cause of a woman's infertility, it could be suggested that in some cases there is some absolution from blame because the woman was inexperienced and so 'did not know any better'.<sup>252</sup>

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importance of timeliness is also expressed in the opening statement of *Aph.* 1.1 L.4.458 (trans. Jones, 1931, p. 99) which states 'Life is short, the Art long, opportunity fleeting...' (ὁ βίος βραχύς, ἡ δὲ τέχνη μακρὴ, ὁ δὲ καιρὸς ὀξύς...).

<sup>251</sup> cf. *DW.* 3.213 L.8.412.2-3 in the case of the menstrual blood being diseased; case of passing less menstrual blood (*DW.* 3.412.21-22); excretion of excess menses (*DW.* 3.213 L.8.4142-3). It is also stated in these cases that if the infertility is naturally occurring then the woman will remain infertile (see chapter 8 for discussion on the Hippocratic use of 'natural' infertility). The importance of quick treatment is not limited to infertility but also applied to other diseases. For example this is found in *Nat. Puer.* 7 (L.7.502.14-1) where the author notes that if the lochial cleaning after birth is not completed fully the woman will die if not cared for quickly enough.

<sup>252</sup> We also find the inexperienced woman in later sources from the Roman Empire. Pliny the Younger (*Epis.* 8.10) writes to his wife's grandfather informing him of Calpurnia's miscarriage. Pliny is very clear that he directly blames the miscarriage on the actions of his wife, stating that being 'young and inexperienced she did not realise she was pregnant, failed to take proper precautions and did several things that were better left undone' (trans. Radice, 1969, p. 27-29). He continues that by nearly losing her life she has learnt a severe lesson and consoles himself by stating that this miscarriage at least has shown his wife to be fertile (for Pliny at least fertility is shown by conception rather than the ability to complete the pregnancy). However, Gourevitch (cited in King, 1998, p. 48; 1984, p. 163-64) has noted that whilst Pliny blames Calpurnia in this letter the next letter to Calpurnia's aunt states that it was not her fault but simply



### Patient not listening to doctor

Another area of potential blame is the patient not listening to or not following the advice of their doctor. *The Art* 7 (L.6.10.15-12.13) explains that the death of a patient under the treatment of a properly trained doctor is due not to shortcomings in the art of medicine but to the inability of the patients to follow instructions. Similarly in *Precepts* (9 L.9.264) the author states that a doctor must take a patient in hand, as a patient who is under orders will stay on course, whereas left to themselves they will give in to their condition, struggle and die.<sup>253</sup> However, Dean-Jones (1995, p. 49) suggests that in these cases, where the focus is more on the male patients, the issue of trust is confined to whether or not the patient is following the doctor's instructions. There is a particular focus on the patient lying about taking unpleasant remedies and dying as a result, with the doctor then being unfairly blamed.

Blame of this type can also be seen in the evidence for prolapse of the uterus. I have described the various reasons given in the Hippocratic Corpus for prolapse. The main reasons given are over-exertion of any kind particularly after childbirth or having intercourse either during the lochia flux and too soon after giving birth (e.g. *Nat.Mul.*5 L.7.316; *DW.*2.145 L.8.320). When prolapses occur when the woman has not followed the correct regimen it might be because these women are inexperienced or that they have not followed the advice of their doctor. In these cases the woman is not held responsible for the uterus being in a bad condition but can be blamed for not following the correct regimen.

### Themes in the association between blame and infertility

In these examples of blame and infertility, there are several themes that emerge. Primarily the focus of the blame is on delayed diagnosis because of the female patient's inability to recognise her symptoms that is often due to her inexperience. The second type of blame relates to mistreatment, either by the patients themselves or by other health care providers. The central

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due to her age (*Epis.* 8.11). There is still a sense here that as long as she learns from this miscarriage her youth and inexperience could be considered mitigating factors.

<sup>253</sup> cf. *Decent.* 14 L.9.240.12-16.

theme here seems to be the emphasis on the importance of contacting a Hippocratic physician at the first sign of symptoms. King (1995b, p. 136) has suggested that the whole point of the assertion of the norm of female ignorance and silence is to make the necessary consultation of a Hippocratic doctor obvious.

What is noticeable from these examples of blame in relation to infertility is that in every case the focus is on the treatment of diseases, whether this is perceived by the woman or diagnosed by the doctor. There is never blame placed on the woman for the initial cause of her disease, only for her reaction to her condition. In fact, there is only one place in the corpus where the cause of infertility is linked directly to a person's actions and that occurs in the case of the Scythians' infertility in the treatise *Airs, Waters, Places*.

#### The infertility of the Scythians in *Airs, Waters, Places*

As we have seen *Airs, Waters, Places* gives a detailed description of the causes of infertility in the Scythian men and women. In chapters 3 and 4, I discussed why the Hippocratic author believed that the Scythians struggled to conceive; the men become impotent through cutting behind the ear to relieve a swelling in the groin and the women are infertile due to being obese. Here I will revisit the infertility of the Scythians, this time to explore the blame associated with their fertility issues. So far in this chapter, I have suggested that when blame is linked to infertility in the Hippocratic texts it is due to issues surrounding treatment, whether mis-administered, wrongly prescribed or delayed. However, in the case of Scythian infertility the link between blame and infertility, particularly with regard to female infertility, is strikingly different.

The cause of infertility in the Scythian men is multi-layered; ultimately, it is the treatment they employed to reduce a swelling in the groin that caused their impotence and infertility and this follows the pattern that I have described so far. However, what we also find in this case is the initial cause of the problem being linked to a person's actions. In the case of the Scythian men the swelling in the groin, which leads to them needing this treatment, is due to the way in which they ride horses. This link between a person's actions and the cause of infertility is rare in the

Hippocratic Corpus, although in this case it was ultimately the way treatment was applied that caused infertility.

The description of infertility of the Scythian women is interesting. The author describes how the Scythian women are particularly prone to infertility problems due to the cold, wet climate and northerly winds of their country (*AWP*.21 L.2.52-54). This climate leads to an increase in the flabbiness and moistness of the flesh, resulting in the women being overweight. The author notes that the effects of the climate were made worse by the women being ‘personally fat and lazy’. Their lack of activity is proven to be the cause as their slave women, who of course share the same environment, are not only lean through activity but ‘no sooner go to a man than they are with child’.

What makes the description of the Scythian women’s obesity even more striking is a comparison with the descriptions of obesity causing infertility that occurs elsewhere in the corpus. Infertility caused by being overweight is mentioned several times in the Hippocratic Corpus (e.g. *NatMul*.20 L.340; *Aph*.5.46 L.5.518; *Superf*.29 L.8.494; *DW*.3.217 L.8.420; *DW*.3.229 L.8.438).<sup>254</sup> However, unlike in the case of the Scythians, the Hippocratic authors never discuss the initial cause of a person’s weight gain. Instead, they simply note that if a person is overweight and struggling to conceive, then a regimen should be employed to aid their weight loss and recover their fertility. The fact that the initial cause of a woman’s weight gain is described in the case of the Scythians, but not elsewhere, is suggestive. Without discussing the factors that lead to weight gain, the result is that there is no discussion on whether the person’s actions are to blame for the resulting infertility.

This description of infertility in the Scythians is the only example I can find in the Hippocratic Corpus where the author states outright that a person’s actions can be directly linked to their subsequent infertility. It is of course important to note that that this is a description of non-Greek women. The treatise *Airs, Waters, Places* is entirely based around showing the differences between Greeks and non-Greeks, both in their environments and customs. The descriptions of the

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<sup>254</sup> The reasons why being overweight was believed to cause infertility has been discussed in chapter 4.

Scythians' infertility may be a cautionary tale to the Greeks, warning them that they should live according to the environment they are residing in. However, the fact that the only occasion where a Hippocratic author clearly admonishes a woman for their own role in their fertility issues is in the case of a group of non-Greek women, only goes to highlight the lack of blame elsewhere in the corpus.

### Conclusion

As I have shown in this chapter, blame associated with infertility is relatively rare in comparison to the descriptions of fertility and infertility in the Hippocratic texts. When blame does occur, it is normally related to the treatment of either infertility itself, or another disease which results in infertility. As the focus of blame is placed on problems relating to treatment, there is little blame associated with the initial cause of either infertility or the diseases associated with infertility. The one exception to this is in the case of the Scythians where the Hippocratic author links their infertility directly to the fact that their lifestyle does not reflect the climate in which they live. The relationship between blame and infertility in these texts seems to fit into a wider narrative in the Hippocratic Corpus of the importance of seeing a reputable Hippocratic physician as soon as symptoms present themselves. In this chapter, I have focused on the types of blame linked to infertility: in chapter 8, I will explore why the Hippocratic writers may have employed blame in relation to mis-administered or delayed treatment. I will also explore further why the only time these authors choose to consider the initial causes of a person's infertility is in the case of a group of non-Greeks.

## Chapter 8.

### Infertility and the avoidance of blame

The desire to explain sickness and death in terms of volition – of acts done or left undone - is ancient and powerful.

(Rosenberg, 1986, p. 50)

Significantly, the origins of infertility have consistently been linked to individual choices or actions, suggesting that if infertile individuals cannot be blamed for the tubal obstructions and genital infections directly responsible for their not having children, they can be blamed for the past actions that predisposed them to developing these conditions or that initiated the causal chain of infertility. (Sandelowski, 1990, p. 479)

I start this chapter with two quotations, both of which focus on modern medicine. The first is general to medicine and the second focuses on infertility. The first quotation suggests that there is a need to explain both sickness and death in relation to the actions of a person, whether these actions are performed or withheld. In the last chapter I demonstrated that the occurrences of blame that are found in the Hippocratic Corpus are all linked to the treatment of either infertility itself, or other diseases which can lead to fertility problems. Where blame for infertility is present in the Hippocratic texts it does fit into the categories identified by Rosenberg. The blame is placed on the actions of the disreputable doctor prescribing the wrong treatment, the misapplication of treatment by the woman herself, or the woman's inaction by not calling a physician soon enough after symptoms displayed themselves. However, this is only true in the very specific cases associated with the need for quick treatment and choosing a reputable Hippocratic doctor.

When we turn to the second quotation regarding blame for infertility, we find a somewhat different situation. Exploring infertility from a modern sociological viewpoint, Sandelowski suggests that when patients cannot be directly blamed for the conditions that have resulted in infertility, 'they can be blamed for the past actions that predisposed them to developing these conditions or that initiated the causal chain of infertility'. The idea that a person's actions were responsible for the development of a condition that would lead to their infertility is one almost

entirely absent from the Hippocratic Corpus, with the one major exception already described in the case of the Scythians. One of the main aims of this chapter is to explore why we do not find the situation that Sandelowski outlines in the ancient medical texts and what might be present in its place.

The lack of blame, apart from the few occasions it is associated with treatment, is telling in itself. This can be seen to be the case when we consider the evidence of the Scythians in *Airs, Waters, Places*. In this text, blame is attached to the cause of infertility (as outlined at the end of the previous chapter), as we are informed that the Scythian women's obesity is due to their lifestyle. But why do we not find these kinds of accusations more widely in the Hippocratic Corpus? If blame for infertility had been completely absent from the Hippocratic texts, we could then have argued either that no blame was ever associated with infertility or that blaming the woman for a couple's infertility was so ingrained in ancient society that there was no need even to mention it. However, the inclusion of blame in a wider narrative of the importance of visiting a Hippocratic doctor as soon as symptoms occur suggests that neither of these circumstances were the case.

In this chapter, I will investigate another side to blame associated with infertility: the distancing of blame and possible occurrences of protection from blame that can be found in the ancient medical texts. I shall begin by exploring the different circumstances in which distancing and protection from blame appear in the Hippocratic Corpus, before examining why the Hippocratic authors may have felt the need to employ such tactics. The focus of the discussion will be on how Hippocratic medicine and its physicians in the fifth and fourth centuries may have wished not only to protect themselves, but also to disparage others and how the nature of infertility itself may have played a role in this. Exploring how medicine was developing in this time period will help explain further why blame for infertility in the Hippocratic texts is focused almost exclusively on issues surrounding treatment. In the final section, I shall turn away from the medical texts and explore issues surrounding blame and protection in wider ancient Greek literature. This section will focus on the effect infertility could have on a couple's marriage and particularly on the discussions associated with the choice of whether to continue or terminate an unproductive marriage.

### Distancing and protection from blame for infertility

Finding concrete evidence for distancing blame from infertility in the Hippocratic texts is by no means an easy task. There are no cases where a Hippocratic author states that his intention is to deflect blame, nor where he states that he is attempting to protect himself or his patient. It could be suggested that this is only to be expected. If the author stated his intentions then this might negate any attempts at protection. In order to find evidence of distancing and protection from blame it is important not to treat the evidence at face value but to try to examine the possible intentions behind it. Taken individually, the evidence I present in this chapter may be overlooked, but when taken as a whole, themes associated with distancing and protection from blame do emerge.

Some of the evidence that can be used to show some distancing and protection from blame has already been presented in other chapters of the thesis. The first type of evidence is the relative lack of blame for the causes of diseases or conditions resulting in infertility except in the case of the Scythians. Arguing from the point of what is missing from the ancient texts has its methodological problems, of course, and so approaching texts in this way has only limited value. However, I think that it is important to stress just how rare blame for infertility is in the ancient medical texts, and how in these texts blame is therefore conspicuous by its absence.

### Importance of quick treatment and going to a reputable Hippocratic doctor

The blame that is found in the Hippocratic Corpus, as outlined in the previous chapter, also hints at the desire on the part of the authors to protect from and distance blame. As described in chapter 7, the blame associated with infertility by the Hippocratic writers is focused on mistreatment or delayed treatment either by the woman herself or by disreputable doctors and healers. This type of blame can also be seen as a way of protecting the doctor and distancing him from blame.

Ann Hanson (1987) has suggested that one of the reasons that the idea of the eighth-month child was readily accepted in ancient Greek culture was due to the protection it granted, and I believe this can be extended to the way in which infertility is approached in the Hippocratic texts. A commonly held belief in ancient medical thought was that a child born after eight months of

gestation was unlikely to survive, whereas a child born at seven or nine months had a greater chance of survival.<sup>255</sup> Even if the woman was thought to be nine months pregnant when she went into labour, the idea of the eighth-month child was so ingrained in the culture that the death of the child during birth could be explained by the doctor declaring that the woman must have mistaken the time of conception.<sup>256</sup> To modern readers this may not seem a likely scenario. However, Hanson has argued that while there were many things that contributed to the popularity of the theory of the eighth-month child, a major aspect was not medical truth but a matter of protection. At a time when both infant and maternal mortality was high, the notion of the eighth-month child protected the midwife and doctor from accusations that their actions during labour brought about the death of the child, and similarly protected the mother from suggestions that she was unfit to bear children or responsible for the child's death. The ability to be able to say 'it was an eighth-month child and therefore no one could have saved it' was important to the reputations of all involved.

It is possible that a similar form of protection was operating in the cases of infertility, with the proviso that here the reputation of one player – the doctor writing about the problem – is protected by passing the blame to other, less reputable, doctors or to recent actions of the woman herself. Suggesting that the woman or another doctor had caused infertility through mistreatment may even distance blame away from Hippocratic medicine more generally.

#### The abundance of infertility

Another possible way in which blame for infertility is guarded against is the way the Hippocratic writers describe infertility as a relatively common occurrence that is perhaps comparable to the

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<sup>255</sup> The ancient way of counting months of gestation differs from the modern. Our ninth month child, the average length of gestation, would be classified as a tenth month child as child had completed nine months in utero and was born during the tenth month (Hanson, 1987, p. 589). There are several different explanations given for why an eighth month child is more viable than one of seven months. One explanation of the eighth month child is due to numerology and the belief that seven and numbers divisible by seven were good signs in many aspects of life including health. In *Carn.* 7 L.8.612-614 it is stated that a child born at seven months has logic and reason whereas one born at eight months often dies but a child born at nine months and ten days, which is divisible by seven, survives (see Hanson, 1987, p. 590–594 for this and other explanations).

<sup>256</sup> The duration of pregnancy was important for issues of paternity and legitimacy of offspring (Hanson, 1987, p. 589).



idea of the eighth-month child being a quirk of nature something that just happens. In chapter 6 I explored the possibility of a medicalisation of fertility, giving evidence from two Hippocratic texts where the authors state that there are many causes of infertility, and on this view it is hardly surprising to find women who are suffering from infertility (*DW*.3.213 L.8.414). Similarly, in the first book of *Diseases of Women* the author notes that miscarriages are a frequent occurrence and it requires skill to carry a child to full term. In addition to these passages suggesting an attempt to increase medical intervention in fertility, I believe these statements could suggest an element of protection for both doctor and patient.

Lloyd (1983, p. 85) suggests that in these cases the writers are recognising the psychological effects on patients of such occurrences and insisting 'that women should not be alarmed at not becoming pregnant, for example, or at miscarrying'. While the purpose behind these statements may simply be to recognise and cater for the psychological effects of infertility and miscarriage, the idea that these events were a common problem and that there were many different causes would plausibly also help counter any accusations of blame from the female patient. That is to say, a Hippocratic doctor would be able to tell their patients that they were not unusual in their fertility issues.

Infertility was not the only common barrier to raising a child to adulthood. There was a high infant mortality rate in antiquity and it has been estimated that each married couple would need to produce four to five children to keep the population at a steady rate (Garland, 1990, p. 76). No matter how important the procreation of children was for a married couple, the production of a live child was no guarantee that this child would survive to adulthood. This meant that alternatives such as adoption, particularly of adult males, played a role in the succession of many families whether or not the couple had struggled with infertility. An example of this can be seen in the legal speech of Isaeus 7, where Apollodorus, who is described as being advanced in years, adopts

his adult nephew after his own son dies.<sup>257</sup> This acceptance of adoption may have played a part in relieving pressure on infertile couples.

### Nature of infertility and the importance of prognosis

The nature of infertility, both today and in the ancient world, lends itself to the potential accusation of blame and conversely to protection from blame in several ways. The first is the unpredictability of infertility. In modern society there are frequent stories in the press about a couple being told they would never conceive only to find themselves having a ‘miracle baby’. This unpredictability is contrary to one of the most important tools for the Hippocratic physician, prognosis, the ability to be able to tell the past, present and future of a disease (Edelstein, 1994; cf. Jouanna, 1999, p. 101–102). Accurately predicting not only the course the disease would take, but the course the disease had taken prior to the doctor’s arrival, gave both the physician and the patient and their family confidence and calmed the patient who could rest assured that his physician was knowledgeable about his condition (Edelstein, 1994, p. 69–70). As King (1998, p. 165) suggests, an important aspect of prognosis is the identification of those patients whose prognosis is negative and who are likely to die.<sup>258</sup> Even if the prognosis given by the doctor is a fatal one, this at least exonerates the doctor from blame after the fact (*Prog.* 1 L.2.94 Edelstein, 1994, p. 66, 69–70). It is important to note that whilst prognosis may have been used tactically, it was also central to the practice of medicine: it was more than just how a disease was likely to progress, rather it was seen as an essential aspect of understanding and treating individual patients and controlling the disease (Nutton, 2004, p. 89).

The prognoses given for infertility in the Hippocratic Corpus are interesting, with a secure prognosis rarely forthcoming. Perhaps the best way to demonstrate this is by exploring the prognosis of infertility given in book 3 of *Diseases of Women*. At the beginning of the book, the

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<sup>257</sup> See also the case of Meneclēs (Isaeus 2) discussed in the last section of this chapter; he adopts his adult former brother-in-law after divorcing his wife with whom he has not been able to produce children. See Rubenstein (1993) for a detailed account of adoption in fourth century Athens.

<sup>258</sup> Nutton (2004, p. 88) notes the tactical use of prognosis was not without its critics even within the Hippocratic Corpus. Book 2 of *Prorrhetic* opens with outlandish cases of prognosis witnessed or told to the author of which he disapproves.

author outlines 11 different causes and signs of infertility (*DW*.3.213 L.8.408-414). A similar pattern is followed in all cases: first, the cause of infertility is given, then an explanation of the reason this has an effect on fertility, followed by how a diagnosis can be made, and finally the prognosis if offered. These are given in the table below:<sup>259</sup>

	<u>Cause of infertility</u>	<u>Prognosis</u>	<u>Prognosis (translated)</u>
1	Mouth of uterus turning away from vagina.	μελεδανθεῖσα ἡ γυνὴ φορὸς γίνεται· ἔστι δὲ καὶ ὅτε αὐτομάτη. (L.8.408.17-18)	She will become fertile on treatment or spontaneously.
2	Slippery surface of the uterus.	ἀνίητος δὲ γίνεται ὥς ἐπὶ τὸ πλεόν ἢ τοιαύτη. (L.8.410.5-6)	Generally incurable. [Can occur naturally or as a result of ulcers]
3	Ulcers in the uterus.	μελεδανθεῖσα δὲ φορὸς γίνεται· ἐλπίδες δὲ ὀλίγαι εἰσίν. (L.8.410.14-15)	She may become fertile on being cared for although the hope is slight.
4	Menstrual blood remaining in the uterus.	καὶ ἥν μὲν ἐν ἀρχῇ μελεδαίνηται, ὑγιαίνει τε καὶ φορὸς γίνεται· ἥν δὲ χρόνος ἐγγένηται, ἄφορος ἔσται· (L.8.410.19-20)	If the woman receives treatment at the onset she will recover and become fertile treatment is quick she will recover and become fertile.

<sup>259</sup> Here I only concern myself with the prognosis of these conditions. A detailed discussion of all of the diseases and conditions given in this table can be found in chapter 3 and 4.

			If time has intervened she will remain infertile.
5	The mouth of the uterus gapes open too much.	γίνεται δὲ καὶ φύσει τὸ πάθημα τοῦτο καὶ ὑπὸ νοσημάτων τῶν εἰρημένων. κῆν μὲν φύσει ἤ, ἀνίητος ἢ νοῦσος· ἦν δὲ μὴ, ἱητή. (L.8.412.1-3)	This can arise naturally, as well as from the diseases recorded. If it occurs naturally, it is incurable, but otherwise can be cured.
6	Unhealthy menses.	ἐν τάχει δὲ μελεδανθεῖσα φορὸς γίνεται· εἰ δὲ μὴ, οὐ. (L.8.412.10-11)	If she is cared for quickly she will become fertile, but not otherwise.
7	Menses cease flowing (due to the other causes given above).	_____	The author states ‘she will fail to conceive’ whilst this occurs but no prognosis is given.
8	Passing less menstrual blood than considered normal.	κῆν μὲν φύσει ὀλίγα χωρὲν τὰ καταμήνια, ἀνίητος γίνεται· ἦν δὲ ὑπὸ παθήματος τούτων τινὸς τῶν εἰρημένων, μελεδανθεῖσα ἐν τάχει φορὸς ἔσται. (L.8.412.17-19)	If a woman’s menses are naturally scanty, she cannot be cured, but if this is due to one of the diseases mentioned above, immediate treatment immediately will restore her fertility.
9	If a woman passes more menstrual	καὶ ἦν μὲν φύσει ἢ γυνὴ πολλὰ χαλᾷ τὰ καταμήνια,	If a woman discharges excessive menses naturally, she will become

	blood than considered normal.	ἄφορος γίνεται· ἣν δὲ μὴ φύσει, ἀλλ' ὑπὸ παθήματός τινος τῶν εἰρημένων, μελεδανθεῖσα ἐν τάχει φορὸς ἔσται. (L.8.414.1-3)	infertile, whereas this is not natural but due to one of the aforementioned diseases, treatment immediately will restore her to fertility.
10	Complete prolapse of the mouth of the uterus.	καὶ ταύτῃ ἄφορος γίνεται τὸ πᾶμπαν. (L.8.414.6)	The woman becomes completely infertile.
11	Menses not flowing where they should but down rectum due to mouth of uterus turning away from vagina.	μελεδανθεῖσα φορὸς γίνεται. (L.8.414.11)	Becomes fertile on treatment.

In two cases a positive prognosis is given. If the mouth of the uterus has turned away from the vagina (1) or the menses are running down the rectum due to the uterine mouth turning away (11) we are simply told that the woman will recover on treatment or she will recover spontaneously. In the case of women whose menses cease to flow (7) the prognosis at first glance seems negative; 'she will not conceive'. However, the author seems to be stating she will not conceive whilst she remains without a menstrual flow, owing to the causes which he has already outlined. Therefore, the prognosis is not wholly negative but simply that she will not conceive until the menses are restored, with her prognosis depending on what has caused the lack of menstrual blood in the first

place. In only one case, that of a complete prolapse of the uterus (10), is a wholly negative prognosis given, namely that the woman will become 'completely infertile'.

In the majority of cases alternative prognoses are given. There are two different groupings here. In the first, the difference in prognosis, is between quick and delayed treatment and, in the second, there is a division between naturally occurring conditions, and those that are due to disease. In the first group belong the cases of menstrual blood being retained in the uterus (4) and diseased menstrual blood (6). In both of these cases a positive prognosis is given if treatment is administered quickly, and a negative one if treatment is delayed. In the case of an uncleaned ulcer (3), the woman may become fertile but the chances are slim. Here the emphasis is also on quick treatment because it is the fact that the ulcer has been left untreated that has caused the prognosis to become less positive. In the case of the surface of the uterus becoming too slippery to retain the seed (2), the condition is said either to be due to the ulcers being left untreated, or has occurred naturally. Here the prognosis is negative and we are told it is generally incurable. In the case of this condition, resulting from an ulcer, quick treatment is once again the issue. The alternative is that the condition was naturally occurring in the woman, which brings us to the second type of dual-prognoses. In the cases where the mouth of the uterus is gaping (5), or where either less (8) or more (9) menstrual blood is released than was considered normal, the author states that if these conditions occur naturally then they cannot be cured, but if they result from disease then they can be.

This brief analysis of prognosis suggests that, for the most part the Hippocratic writer or compiler of this text felt unable or unwilling to produce a strong prognosis for infertility. By creating dual-prognoses for most of the conditions that led to infertility, he effectively gave the Hippocratic physician a 'get-out clause'. If a patient did not respond to treatment in those cases where quick treatment was felt to be needed he was able to suggest that the woman, whether due to inexperience or deliberate concealment of symptoms, had waited too long to call in a doctor. In the cases of natural causes versus conditions caused by disease, if treatment did not work he could declare this was ascribable to a natural condition in the woman. The fact that the author does not explain how to distinguish natural conditions from those caused by disease suggests that, like the

duration of pregnancy in the case of the eighth-month child, this was something that could be diagnosed retrospectively.

#### Natural vs. unnatural infertility

In addition to the differences in prognosis between ‘natural’ infertility and that caused by disease, another interesting point in terms of blame is the idea that some people are more naturally inclined towards infertility problems than others. In chapter 4, I explored how physical characteristics were used by the Hippocratic physicians to determine fertility status. In *Prorrhetic* (2.24 L.9.54) the author outlines the body types and characteristics he believes indicate a higher or lower chance of conceiving.<sup>260</sup> In his description, the author is not only suggesting that a person’s fertility can be indicated through their appearance, but also that a person’s natural physical form can affect their fertility. Obesity is linked to fertility problems with the author stating that thin women conceive better than obese ones. However, the Hippocratic writer is not just stating that obese women are less likely to conceive but that even women who have a natural disposition to be overweight are less likely to conceive.<sup>261</sup>

Similarly, there are examples where diseases and conditions affecting fertility are separated into those which occur naturally in the woman and those with unnatural causes, for example through disease or injury. Examples of these cases have been described above. The idea that if a condition causing fertility problems is naturally occurring in a woman, rather than being caused by disease, then it will be incurable is repeated several times in the Hippocratic texts and we find the same claim in descriptions of different conditions.

One of the most important aspects in relation to the prognosis of natural causes of infertility compared to those that are caused by disease, is that we are not informed how to distinguish between the two, prior to treatment. As Flemming (2013, p. 573) notes, in book 3 of *Diseases of Women* ‘the only means of distinguishing between the two causal possibilities is through remedial

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<sup>260</sup> See p.120-121 for the full text of this passage.

<sup>261</sup> Temkin (1949, p. 3) has also argued that more generally hereditary characteristics or national customs could not be blamed on the patient.

endeavour, with whatever is not cured, then labelled as “by nature” *phusei*; so efforts always need to be made’.<sup>262</sup> It is the positive or negative result of the treatment that determines a condition as natural or coming about due to disease. Thus, if treatment worked it was obvious that a disease was the root cause, but if the physician failed to cure the patient, he would still escape accusations of blame by stating that it must have been natural after all.

### Changing fertility status

Alongside being described as a common condition in the Hippocratic texts, infertility is often portrayed as a fickle one, with frequent references to a change in a person’s fertility status. The difficulty of offering a prognosis for infertility supports a wider idea of infertility being not only difficult to control, but also to predict. Frequent references are made in the Hippocratic texts to women initially being fertile only later to find they are not able to produce children; what today is referred to as secondary infertility. For example, the author of *Diseases of Women 3* (222 L.8.428), in a passage explaining the effect that pus in the uterus has on fertility, states that this condition is noted in women who used to become pregnant but can no longer do so. Often secondary infertility of this nature is linked to a problem resulting from childbirth itself; for example, if the lochial flow is diseased (*DW*.1.38 L.8.94). Problems in the reproductive system that are linked to infertility are also reported as healing ‘spontaneously’ (αὐτομάτη) (e.g. *DW*.2.213 L.8.408.17-18).

Alongside the ideas surrounding prognosis, and the stress on the prevalence of infertility, is thus the idea that infertility is unpredictable – all of which works together to heighten the perceived difficulty of producing a child. This narrative that is built up, with infertility as fickle and subject to change, plays into the idea of a culture in which protection from blame may be needed. Such an unpredictable condition as infertility was potentially dangerous to a Hippocratic physician, due to the importance of prognosis to his reputation. As we shall see in the next section, infertility had an impact on the couple’s marriage and could potentially end in divorce. A Hippocratic physician

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<sup>262</sup> Flemming stresses that the same cannot be said of books 1 and 2 where there are few cases of permanent or complete infertility and those which are present are due to chronic diseases, rather than nature or birth.



would surely be reluctant to say a couple had no chance of conceiving in case they had children at later date.

### The medical profession in fifth century and fourth centuries BC

If it is the case that the Hippocratic writers were attempting to distance and protect themselves from any accusations of blame, then the next question must be: why did they feel the need to do so? In addition to the reasons outlined so far regarding the nature of infertility and the difficulty of prognosis, the answer to this may also lie in the state of the medical profession in the fifth and fourth centuries BC. To some extent doctors have been, and will always be, vulnerable to accusations of malpractice should their treatment not be successful or, in the worst case, if the patient dies. The Hippocratic physician was certainly not exempt from these accusations and one could suggest that, as Hippocratic medicine was a developing τέχνη in the fifth and fourth centuries, doctors were perhaps even more vulnerable to accusations of this kind.

In antiquity, there were of course no medical degrees and no professional guilds: in essence, anyone could call themselves a doctor. As Nutton (1985, p. 26) suggests, in antiquity the decision as to who was called a doctor was made either by the layman or the individual doctor himself. Jouanna (1999, p. 75) further notes that the lack of an official qualification meant that the doctor had to make his mark at once and would need not only to be competent but also eloquent. Many doctors travelled between towns looking for clients and, as King (1998, p. 41) has stated, '[a]rriving in a new location with no licence, and no recognised training, these healers need to display an image which would convince patients of their worth.' In *Precepts* (10 L.9.266.9-13) the author outlines how a doctor should approach his patients. His advice includes tips on dress, such as not wearing elaborate perfumes or a luxurious hat. The author also advises on the issue of fees, suggesting that starting the consultation with a discussion of fees may suggest to the patient that you will leave him without treatment if a fee is not agreed beforehand. He further notes that it is better to get money from patients whom you have saved than extort money from those on their deathbed (4 L.9.254.14-256.7). Later he states that sometimes fees should be

waived and the doctors should think of previous benefactors and the love of the art (6 L.9.258.5-15).

A doctor played an important and privileged role in his patients' lives but it was also socially a dangerous role, which could lead to accusations of abusing his position or endangering his patients' lives through his treatments. The status of doctors in the fifth century BC was relatively low and scholars have argued that adopting Hippocratic theories and practice, based on natural causes and cures for diseases, played a role in increasing their social status. Pleket (1995, p. 27–33) and Horstmanshoff (1990, p. 176–97) have argued that to improve their social esteem physicians would adopt rational medical theories in order to align themselves with the intellectual ideology of the elite. Horstmanshoff (1990) argues that they would have done this for financial security and Pleket (1995) explores the general increase in the status of public physicians. More recently Chang (2008) has argued that the rise of rational medical theories, and especially the use of regimen for both treatment and prevention of diseases, was aimed at the tastes and interests of the learned elite. The reason that the ancient physician was keen to engage the elite in preventative health regimens was partly for monetary reasons but also an attempt to rise up the social ladder. As fertility was of great importance in ancient society it is only natural that doctors would turn their attention to matters of infertility to meet the needs not only of their patients, but also the non-medical professions who were reading the Hippocratic texts.

As adherents to relatively new branch of medicine, the Hippocratic physicians had not established themselves or their views, which meant their reputation was in a precarious position. Thompson (1990, p. 204), writing from a modern sociological viewpoint, notes that '[a]n institution or way of life that cannot deflect blame, particularly when times are hard, cannot be sustained'. The ancient medical profession and the ancient medical writers wanted and needed to survive so distancing blame from themselves was probably one tool which allowed them to achieve this. This may be why, when we do find blame associated with fertility, it tends to be in cases when the patient has (allegedly) not visited a reputable doctor, has either administered treatment to themselves, or has delayed seeking advice.

### Competition with other healers

Another area which may have influenced the Hippocratic writers to distance themselves from any accusations of blame is their relationship with other types of healers. As King (1995b, p. 141) states, there is little evidence to allow us to judge the type of competition faced by Hippocratic doctors and other kinds of healer in ancient Greece. There has already been discussion in this thesis about the other types of healers in the ancient world, in particular the religious healing found at healing sanctuaries such as Epidauros. Lloyd (1983, p. 69–70) outlines other possible types of religious healing such as itinerant charlatans mentioned by Plato (*R.*364b, *Lg.*909a, 933a) and the ‘purifiers’ criticised in the Hippocratic text *On the Sacred Disease* (1 L.6.352.1). There were also female healers of various kinds. As I described in the previous chapter, in *Diseases of Women* (1.67 L.8.140.15) the author criticised women who treated ulceration of the uterus, although it is not clear in this case whether he is referring to female healers, or to the woman applying the treatment to herself. Lloyd (1983, p.79) suggests that the norm, not only during childbirth, but also when they were sick, was for women to be treated by other women. This may often have been a case of women treating others in their household (e.g. *Xen.Oeca.*7.37 suggests that a housewife’s duties included making sure the sick in her household were cared for). In other cases, it may be a female neighbour thought to have a special skill, someone with more than a local reputation or alternatively consulting one of the female healers, alluded to in the Hippocratic texts. Lloyd (1983, p.79), rightly notes that we do not have the evidence to evaluate the probability of the woman or a male relative calling in the services of a male doctor. Dean-Jones (1994, p. 33–5; 136, cf. 1995, p. 45) suggests that there are signs in the Hippocratic texts that the strongest challenge came from practitioners of traditional women’s medicine, and this is the reason there are twice as many male as female case studies in *Epidemics*.

As Flemming (2013, p. 580) states, it is unclear whether ancient physicians were involved in the care and cure of women’s reproduction before they began to write about it (or at least before those works which have survived were produced). She suggests that the way in which infertility is described by the Hippocratic writers, that is, as something they can explain and cure in the way of other diseases, may suggest that they ‘extended their reach into traditionally female territory,

the realm of the midwife; or, at least, this may have been part of a broader consolidation of their gynaecological hold, integrated into a more defined and unified medical domain'. Flemming further notes that this did not mean that midwives were barred from childbirth or other similar areas but that they were co-existing with physicians as '[o]ther claims to authority in respect to fertility and reproduction had been lodged, and gained purchase'.

As Lloyd (1983, p. 69) states, the emphasis on prognosis and the criticism of faulty treatments and diagnosis that we find in the gynaecological texts are common across the whole of the Hippocratic Corpus. Therefore, the situation regarding blame and protection may not be unique to infertility. However, I believe that because of the uncertainty surrounding fertility that I described earlier in the chapter, the Hippocratic physician was faced with a greater challenge regarding prognosis here than for most other diseases or conditions. Because of these challenges, when it came to infertility the Hippocratic writers appear to have built up a system of protection from blame. In some cases they blame other physicians or the women themselves for not accessing treatment quickly enough. In addition to deflecting blame, they also put measures in place to protect themselves from accusations of blame, particularly regarding misdiagnosis. In order to do this they stress the abundance of infertility and its changeable nature and offer dual-prognoses. Although the Hippocratic physician is most likely attempting to protect himself, this also afforded his patient protection too.

#### Infertility outside the medical texts: divorce and blame

The focus of this thesis has been on exploring infertility in the ancient medical texts, and therefore primarily as a medical rather than a social phenomenon. However, in the case of the relationship between blame and infertility I think it is worth turning to the non-medical sources and exploring whether similar patterns are found in these sources as in the medical works. Having suggested that there is evidence for protection from blame with regard to infertility in the ancient medical texts there are two areas to explore when looking at the non-medical evidence: first, whether there were social consequences of infertility which may lead the medical writers to protect their patients against such accusations, and second, whether we can see protection against blame for infertility

in the non-medical literature. In order to examine these points I will focus here on the relationship between divorce and infertility. This is in part due to restrictions of space but also because the evidence for divorce informs us of the relationship between blame, protection and infertility better than any other non-medical evidence.

As I have previously noted, the purpose of marriage in ancient Greece is often cited by ancient writers as being for the procreation of children. Scholars often state that infertility in a couple could lead to divorce (e.g. Tetlow, 2005, p. 65) and suggest that it was infertility on the part of the wife that led to this divorce. For example Tetlow (2005, p. 45) says that ‘the divorce of barren wives was common practice’ and Fernandes (2013, p. 238) has stated, ‘[c]hildlessness is attested as a reason for divorce and the wife who did not provide her husband with heirs faced being sent back to her father’s house.’ Similarly Gardner (1989, p. 56) claims that ‘[w]e have very little direct evidence about divorce, but a man wanting an heir might be inclined, if he could afford to return the dowry, to divorce a barren wife and take another. She would be obliged to return to her own family – and a barren and therefore unmarriageable relative would not have a happy time, especially after her father was dead.’ One exception to this is an article, already discussed in this thesis, by Michaela Senkova (2015, p. 127–128). Although exploring much the same evidence as the scholars discussed above,<sup>263</sup> Senkova is the only scholar I have found who has put together the evidence for male infertility in cases of divorce. However, Senkova only provides an introduction to the evidence and does not produce an analysis, as I shall do here, of what these sources might tell us about infertility.

Divorce in ancient Greece seems to have been a relatively easy process (Pomeroy, 1975, p. 64; cf. Cohn-Haft, 1995, p. 1; Fernandes, 2013, p. 237). However, although simple, this does not mean that divorce was a routine occurrence (Cox, 2011; cf. Robson, 2013, p. 18).<sup>264</sup>

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<sup>263</sup> Despite Fernandes making the comments given about infertility he does note two law cases (Isaeus 8.36 and 2.7-8) which suggest the problem lies with the husband. These cases are discussed later in this chapter.

<sup>264</sup> Cox (2011) cites the works of Isaeus where there are 50 marriages mentioned but only two divorces as evidence for this. Cohn-Haft (1995, p. 2) states that there are only nine cases of divorce identifiable in the literary sources from Classical Athens.

There were four main types of divorce:

1. Repudiation by the husband (*apopempis* or *ekpempsis*) – repudiation was possible at the will of the husband without the need for justification. The husband who wanted to divorce his wife simply had to give back his wife's dowry.
2. Dissolving of the marriage by the wife abandoning the conjugal roof (*apoleipsis*); this had to be recorded by the archon and the woman represented by her *kyrios*. There are only two examples in classical Greece of this type of divorce (Cohn-Haft, 1995, p. 4). When this type of divorce was initiated by the wife and when it was done by her *kyrios* is difficult to tell.
3. A third person, the father of the bride, who could call back his daughter usually to give her to another husband (*aphaeresis*) but it was only possible if the woman had not had a child (Cantarella, 2005, p. 246–247).<sup>265</sup>
4. The disposition of an 'heiress' (*epikleros*), who if already married, would have to be divorced (Cohn-Haft, 1995, p. 3).

The dowry, usually comprising of money, along with furniture, jewellery, clothes and other goods and in rare cases land, was managed by the husband during the marriage. However, the husband was required to return his former wife's dowry to her *kyrios* on the dissolving of the marriage (Cantarella, 2005, p. 247). If they failed to do this, they were bound to pay interest up to 18 percent per year (Blundell, 1995, p. 116). Blundell (1995, p. 68) suggests that repaying the dowry may have functioned 'as a guarantee of reasonable behaviour on the part of the husband: he himself would be deterred from pursuing a divorce for frivolous reasons, while the threat of a divorce instituted by his father-in-law, and the consequent loss of dowry would ensure a decent standard of living for a married woman.' Although it is difficult to substantiate such views, it is possible that a dowry could afford the woman some protection.

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<sup>265</sup> There has been some debate over whether this type of divorce existed (for example Rosivach, 1984). As Robson (2013b, p. 19) has pointed out that if this type of divorce did exist then it 'raises interesting questions about the legal rights that the natal family still had over the bride and the extent to which – prior to motherhood, at least – she was truly integrated into her marital *oikos*'.

There were a variety of reasons given for divorce in ancient Greece. Plutarch tells us that Pericles ‘legally bestowed her [his wife] upon another man, with her own consent’ because their married life was not agreeable and he wished to remarry (*Per.*24.5; trans. Perrin, 1951, p. 71). Similarly, Andocides (1.124) says that he divorced both his second and third wife, who were a mother and daughter, because he tired of them. Adultery was also cited as a cause of divorce: for example, Hipponicus III divorced his wife after accusing her of adultery (*Lysias* 14.28). In addition to divorce adultery could lead to another problem, that of illegitimate children. This problem is hinted at in one of the most studied case of adultery from ancient Greece that described in *Lysias* 1.<sup>266</sup> *Lysias* 1 concerns the case of Euphiletus, who was charged with the murder of his wife’s lover. As part of his defence, he stresses that his wife’s behaviour was good before she bore his son, with her bad behaviour only beginning after this. Euphiletus may wish to defend himself against the murder charge but he also does not want to cast doubt on his son’s paternity (Pomeroy, 1975, p. 82–83). In law husbands were compelled to divorce adulterous wives (*Dem.* 59.87); failure to do so could result in the loss of their citizen rights (Harrison, 1968, p. 36).

None of the ancient authors tell us how long after marrying a couple without children may have considered divorce.<sup>267</sup> In the *Republic* (784b), Plato suggests that after 10 years of a childless marriage a couple should divorce. While this may have been Plato’s ideal, in reality a couple was unlikely to wait this long. It is important to note that it is unusual for divorce or continuation of an unproductive marriage to be described in the ancient texts because divorce was essentially a private matter with no need for any accompanying legal procedures.<sup>268</sup> Divorce in ancient Greece appears to have only being recorded if something unusual had occurred. More often than not these cases are recounted because of interest in the legal or political aspects, rather than the marriage itself. Although there is very limited evidence for divorces taking place due to infertility, the

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<sup>266</sup> Although this is a case that has been of great interest to classical scholars, it does not seem to have made the same impact in antiquity where there is only one known source discussing it. Porter (1997) has suggested that *Lysias*.1 might not be a real case but a rhetorical exercise.

<sup>267</sup> Dasen (2011) states that we do not know how long a young wife could wait before being suspected of infertility, which could be the cause of divorce. However, I feel considering the evidence that it is more appropriate to consider the couple as a whole rather than singling out the wife.

<sup>268</sup> Except in the case of divorce by *apoleipsis* described above.

available nevertheless presents us with invaluable information regarding how blame and protection relating to infertility may have worked outside the confines of ancient medicine.

One of the most detailed sources for a divorce due to infertility is a case of inheritance related to adoption written by the fourth century BC orator Isaeus. The case of the estate of Menecles is one of the legitimacy of an adoption; however, we are also provided with details of the situation that led to these legal issues, namely (a divorce which took place due to a lack of children). Menecles, having divorced his second wife, later adopted her adult brother in order to have an heir and to be looked after in old age. Twenty-three years later, on the death of Menecles, his brother challenged the legitimacy of the adoption. The reason given was that the adoption was made ‘under the influence of a woman’, Menecles’ ex-wife, which alongside insanity and being senile were laid down in a law by Solon as factors that could make an adoption invalid (Edwards, 2009, p. 28). The circumstances leading to the divorce are outlined as follows:

ἐκδόντες τοίνυν τὰς ἀδελφάς, ὧ ἄνδρες, καὶ ὄντες αὐτοὶ ἐν ἡλικίᾳ, ἐπὶ τὸ στρατεύεσθαι ἐτραπόμεθα καὶ ἀπεδημήσαμεν μετὰ Ἰφικράτους εἰς Θράκην· ἐκεῖ δὲ δόξαντές του εἶναι ἄξιοι περιποιησάμενοί τι κατεπλεύσαμεν δεῦρο καὶ καταλαμβάνομεν τῇ πρεσβυτέρᾳ ἀδελφῇ ὄντα δύο παιδιά, τὴν δὲ νεωτέραν, ἣν εἶχε Μενεκλῆς, ἄπαιδα. καὶ ἐκεῖνος δευτέρῳ μὲν ἢ τρίτῳ, πολλὰ ἐπαινέσας τὴν ἀδελφήν, λόγους ἐποιεῖτο πρὸς ἡμᾶς καὶ ἔφη τὴν τε ἡλικίαν ὑφορᾶσθαι τὴν ἑαυτοῦ καὶ τὴν ἀπαιδίαν· οὐκ οὖν ἔφη δεῖν ἐκείνην τῆς χρηστότητος τῆς ἑαυτῆς τοῦτο ἀπολαῦσαι, ἄπαιδα καταστῆναι συγκαταγῆρας αὐτῷ· ἱκανὸς γὰρ ἔφη αὐτὸς ἀτυχῶν εἶναι. ἐδεῖτο οὖν ἡμῶν δοῦναι χάριν ταύτην αὐτῷ, ἐκδοῦναι ἄλλω αὐτὴν μετὰ τῆς γνώμης τῆς ἑαυτοῦ. καὶ ἡμεῖς ἐκελεύομεν αὐτὸν πείθειν αὐτὴν περὶ τούτων· ὅ τι γὰρ <ἄν> ἐκείνη πεισθῇ, τοῦτ’ ἔφαμεν ποιήσῃ. κάκεῖνη τὸ μὲν πρῶτον οὐδ’ ἠνέσχετ’ αὐτοῦ λέγοντος, προϊόντος δὲ τοῦ χρόνου μόλις ἐπείσθη· καὶ οὕτως ἐκδίδομεν αὐτὴν Ἠλείῳ Σφηττίῳ, καὶ ὁ Μενεκλῆς τὴν τε προῖκα ἐπιδίδωσιν αὐτῷ, μετασχὼν τοῦ οἴκου τῆς μισθώσεως τῶν παίδων τῶν Νικίου, καὶ τὰ ἱμάτια, ἃ ἦλθεν ἔχουσα παρ’ ἐκείνων, καὶ τὰ χρυσίδια, ἃ ἦν, δίδωσιν αὐτῇ.



Having thus settled our sisters, gentlemen, and, being ourselves of military age, we adopted the career of a soldier and went abroad with Iphicrates to Thrace. Having proved our worth there, we returned hither after saving a little money; and we found that our elder sister had two children, but that the younger, the wife of Menecles, was childless. A month or two later Menecles, with many expressions of praise for our sister, approached us and said that he viewed with apprehension his increasing age and childlessness: she ought not, he said, to be rewarded for her virtues by having to grow old with him without bearing children; it was enough that he himself was unfortunate. [His words clearly prove that he loved her when he put her away; for no one utters supplications for one whom he hates.] He, therefore, begged us to do him the favour of marrying her to someone else with his consent. We told him that it was for him to persuade her in the matter, for we would do whatever she agreed. At first she would not even listen to his suggestion, but in course of time she with difficulty consented. So we gave her in marriage to Elius of Sphettus, and Menecles handed over her dowry to him—for he had become part-lessee of the estate of the children of Nicias—and he gave her the garments which she had brought with her to his house and the jewellery which there was.

(Isaeus, *On the estate of Menecles* 2.6-9; trans. Forster, 1927, p. 45–47)

Although Menecles' wife may have been blamed for the adoption by her former brother-in-law, her brother tells us that Menecles went to his brothers-in-law with not only praise for his wife but also deflecting the issue of the lack of children in the marriage away from his wife. The reason he gives for the divorce is lack of children, but we are told that Menecles did not say he wished to divorce his wife because of this, or even because of a lack of compatibility as a couple; instead he says it was because of his advancing age and childlessness. Indeed, he goes further and says that his wife should not 'grow old with him without bearing children'. This is in fact Menecles' second marriage; we are not informed of either the fate of the previous union, whether it ended in divorce or widowhood, or if the first marriage produced any children. However, as Menecles goes on to adopt an adult as his heir we can presume there is no living son and probably no living daughter.

Cox (2011) suggests that Isaeus describes divorce in acceptable terms and indeed the family loyalty would have had some influence on how Menecles' adopted son described his sister. No matter how idealised this version of divorce is, what we have here is a case where the continued childlessness of the couple is placed firmly in the male sphere. Although Menecles does not state outright that the couple's lack of children thus far has been his fault, what he does do is emphasis that the likelihood of this union producing children will decrease due to his advancing years.<sup>269</sup>

In another case, Herodotus (6.61-64) described how Ariston, a king of Sparta,<sup>270</sup> married twice but had no children. Believing that he was not to blame,<sup>271</sup> he married a third time after divorcing his second wife. According to Herodotus, his new wife gave birth in less than the full ten months and as she had been previously married to a friend of Ariston's directly preceding these events this led to questions over the legitimacy.<sup>272</sup> When told of his son's birth, he counted out the months on his fingers and declared the boy could not be his. Although Ariston later retracted this declaration and accepted Demaratus as his own the question of paternity continued to plague Demaratus and, after he succeeded his father as king, ultimately led to him being deposed.<sup>273</sup>

While Ariston may not have believed that he was the cause of the fertility problems, it would seem that others did. Demaratus asks his mother for the truth of his paternity and states that it is reported in Sparta that 'Ariston had seed which made the bearing of children not possible, or his

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<sup>269</sup> Isaeus does not inform us of the age of either partner. It is believed that the average age at marriage in ancient Greece was around 14 for females and 30 for males (Just, 1989, p. 52) so a substantial age gap would not be unusual. As Menecles lived for a further 23 years after adopting his son it is unlikely he was too advanced in years. There was an understanding in the ancient world that both male and female fertility declined with age. Aristotle gives the ages a man would be considered fertile as up to around 60 -70 years of age (*HA.545b27*); see chapter 1 for full discussion relating to infertility and age.

<sup>270</sup> Ariston was a joint king with Anaxandridas c. 550-520 BC.

<sup>271</sup> οὐ γὰρ συνεγινώσκετο αὐτὸς τούτων εἶναι αἴτιος

<sup>272</sup> The potential for the problem of paternity of a child born soon after divorce was addressed in the Gortyn laws (3.44-52) which state that if this occurs the child would be presented by the mother at the father's house and the father would choose whether to accept the child as his own. If he declines then the woman has to bring up the child or expose it.

<sup>273</sup> Scott (2005, p. 260-261) suggests that one reason that Ariston finally accepted Democritus may have been that he had no further son with his wife and his initial rejection may have been as he was under the impression that a further child would be forthcoming.

former wives would have borne him children'.<sup>274</sup> The explanation that Demaratus's mother gives to him is that on the third night after arriving at the house she had intercourse with someone who looked like Ariston. Afterwards when Ariston came to her and asked where the garlands she was wearing had come from, he denied that they were his gift so she explained the situation. On discovering that the garlands had come from the shrine of Astrobacus in the courtyard, Demaratus's mother declared that his father was either Ariston or Astrobacus. It would seem that in fact the gossip surrounding Ariston's birth was that his mother had arrived at the house already pregnant by her first husband, or that she was pregnant by a stable-boy.

As is the case in the writings of Herodotus, it is difficult to assess what is fact and what is narrative fiction. The events surrounding Demaratus's birth occurred 100 years before they are being recounted and are surrounded in political meaning (Scott, 2005, p. 253). However, there are still some interesting points to be drawn out here. Whilst Ariston does not believe himself to be responsible for his lack of offspring, even after two marriages without children, others do.

While there is evidence for a concern in antiquity that a woman might pass off another woman's child as her own there is no suggestion that this may be the case here.<sup>275</sup> Whilst Ariston's wife might be guilty of passing another man's child off as her husband's, whether that of a former husband or of a servant, she has proven her fertility. Ariston has not. This is perhaps one aspect of fertility that favours women: evidence of her fertility is more readily apparent if she bears a child (even if the question of her continued fertility is another matter). However, there can still be some uncertainty about a man's fertility even if he accepts the child as his own.

Although the infertility of a couple could result in divorce, there is evidence to suggest that this was far from a foregone conclusion. The accounts of the orators could be considered as giving an

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<sup>274</sup> Ἀρίστωνι σπέρμα παιδοποιὸν οὐκ ἐνῆν· τεκεῖν γὰρ ἂν οἱ καὶ τὰς προτέρας γυναῖκας. Godley (1922, p. 217) translates this sentence as 'Ariston had it not in him to be a father, else would his former wives have borne him children'. However, I think the reference to seed is worth emphasising here.

<sup>275</sup> The idea of a woman passing a child off as her own is found in ancient comedy. In Aristophanes' *Women at the Thesmophoria* Mnesilochus (502-515) tells an anecdote about a woman pretending to be pregnant and then having to feign labour for 10 days whilst a midwife roamed the town trying find a suitable baby (substitution of children is also mentioned at lines 407-408; 339-340 and 546-5).

idealised view of marriage, and it would appear that couples did make attempts to make their marriage work (Cox, 1998, p. 72; cf. Cohn-Haft, 1995, p. 14). Isaeus (8.36) describes a case (that of Ciron) in which a young wife does not leave her older husband even though their two young sons have died. As a result of the husband's age further children are unlikely but there was no divorce even though 'she was capable of bearing children to another man' (Forster, 1927, p. 311–313).<sup>276</sup> In this case, it is suggested the reason for the woman's brother not encouraging a divorce and subsequent remarriage is based on inheritance rather than loyalty. As his sister's *kyrios*, Ciron's brother-in-law is said to have failed in his duty of removing her from this childless marriage. In fact, in this case it is suggested that divorce was expected because Ciron could not provide his wife with any more children. Ciron's wife is also accused of lying to her husband, saying she was pregnant, and then pretending to have a miscarriage, and therefore giving Ciron false hope of fatherhood. As in the case of Meneclides, the woman is presented as being deceitful, but not necessarily infertile.

Herodotus (5.39) also tells us of the case of the Spartan king Anaxandrides who had married his niece and found himself childless. The Ephors, fearing the house of Eurysthenes would become extinct, demanded he send away his wife and marry another woman. However, Anaxandrides was said to have refused to do either as his wife was blameless (*ἀναμάρτητον*). It would seem here that Anaxandrides is not absolving his wife from being physically responsible for the couple's fertility troubles. However, he does say that she had not performed any action that would cause him disgrace; possibly this included performing any action which endangered her (or indeed his) fertility.

Eventually it was decided that Anaxandrides would take another wife but also keep his current wife; this was against Spartan custom. The second wife quickly gave birth to a son, Cleomenes, but had no more children. However, the first wife then became pregnant with her first child.<sup>277</sup>

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<sup>276</sup> δυναμένην ἔτι τεκεῖν παῖδας ἐξ ἑτέρου ἀνδρός. The social concern of an old man marrying a young girl is played out in ancient comedy. In Meander's *Aspis* an old man is scolded for intending to marry young girl (259) and told to let her find a groom her own age (266–67).

<sup>277</sup> Herodotus describes her as up to this point being ἄτοκος, which as described in chapter 2 could mean simply either that she was childless or Herodotus is identifying her as the cause of the infertility.

When news of the pregnancy reaches the friends of Anaxandrides' second wife, they suggest that this is all an elaborate hoax by Anaxandrides' first wife who plans to substitute a child. However, with the Ephors present, she gives birth to Dorieus, followed quickly by two other children. Having children from two legitimate marriages results in problems of succession at a later date. Dewald (2013, p. 155) suggests that the cases of Anaxandrides and Ariston are occasions when 'the infertility of a Spartan queen forces the king to resort to bigamy or polygamy' and in these circumstances, 'the consequences [as] Herodotus makes clear, is fraternal and civic strife'.<sup>278</sup> Again, this highlights one of the themes associated with infertility in the ancient medical texts. Fertility is never a straightforward matter – you can never be certain that an infertile couple will not go on to have children when a little time has passed.

Although an emphasis in ancient Greece was placed on the procreation of children as a reason for marriage, a lack of children did not mean an automatic termination of the marriage. In the cases described, being a good wife involved not just producing children but also being adept at looking after the household.<sup>279</sup> In Euripides' *Andromache*, Hermione alleges that Andromache has poisoned her, saying that she is now 'hateful to my husband and my womb is dead and barren because of you' (157-158; own translation).<sup>280</sup> What is interesting in the case of Hermione is that Euripides does not give the main reason for her marital problems as infertility. Andromache states that the reason Neoptolemus hates Hermione is that she is unduly self-assertive and is showing

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<sup>278</sup> In the *Laudatio Turiae*, a famous funerary inscription in Latin from the first century BC we find a similar declaration. The husband, like Anaxandrides, states that his wife was a good wife who looks after the house and that he had refused to leave the childless marriage despite his wife offering divorce. In the case of the *Laudatio Turiae* the husband states a further reason for this refusal was that he was not guaranteed to have children with another wife. Traditionally this is read as the writer simply stating that another wife may not have been fertile. However, I think there is a case to be made that this may have been recognition that he may have been the infertile partner.

<sup>279</sup> In Xenophon's *Oeconomicus* (7.3) Ischomachus, a wealthy country squire, is interrogated by Xenophon's Socrates at the market place. Ischomachus presents an idealised and most likely an uncommon view of marriage explaining how he trained his wife in how to look after the house so that he did not need to spend time in the house (Pomeroy, 1994).

<sup>280</sup> στυγοῦμαι δ' ἀνδρὶ φαρμάκοισι σοῖς, νηδὺς δ' ἀκύμων διὰ σέ μοι διόλλυται. I have chosen to use the word 'barren' in this translation as I feel it is more appropriate than 'infertile' due to the nature of the accusation. This is one of the rare occurrences of someone being accused of performing an action that results in another person's infertility in the ancient texts. Cole (2004, p. 148) states that Andromache does give Hermione drugs. However, as Lloyd (1994, p. 9) notes Hermione offers no proof of this.

sexual greed by keeping her husband to herself (205-31). In fact it could be suggested that Hermione's infertility is directly linked to her behaviour; indeed Lloyd (1994, p. 118) has suggested that '[h]er sterility should not be seen as merely a biological problem, unrelated to her more general inadequacy as a wife.' Hermione's plight, however, highlights the precarious nature of a wife until she has borne a legitimate child. Even though Andromache has only provided an illegitimate child this has nevertheless placed pressure on Hermione.

In all of these cases, infertility is deemed a concern in the marriage but in none is it a simple case of an infertile wife being divorced by her husband. In the cases of both Menecles and Ciron age-related male infertility is a factor in the divorce (even if in the case of Ciron there is no divorce the story is still built around the idea that a divorce should have occurred). In the case of Menecles and Anaxandrides it is stressed how blameless the wife was for the lack of children and what good wives they were regardless of this. However, I do not believe that these are attempts by the husband to take all the responsibility for infertility, nor are they cases of the husbands directly trying to protect their wives. Instead, I believe that this was a case of self-interest on the part of the husbands. Both Menecles and Anaxandrides stress how good their wives were and in the case of Menecles emphasising his age as the reason, with Anaxandrides refusing to act simply because of a lack of children. These cases suggest that whilst divorces in the case of infertility did occur, a good husband would not simply desert his wife.

If we turn away from ancient Greece for a moment to one of the most famous divorce cases in antiquity it is possible to see this situation occurring here too. Carvilius Ruga divorced his wife in 231 BC in Rome. The reason this case became notorious was that it set the precedent for a childless but otherwise blameless wife being divorced without penalisation of her husband, or being able to reclaim her dowry.<sup>281</sup> Carvilius Ruga claimed that although he loved his wife and valued her good character he wanted a divorce because he was compelled by the census to look for a wife for the purpose of producing children and she had borne him no children 'owing to

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<sup>281</sup> The account of the divorce from Aulus Gellius (*Attic Nights* 4.3.1-2) states that before this case there were no lawsuits in Rome for the repayment of a wife's dowry, because no marriages were dissolved in this time. As Watson (1965, p. 45-46) suggests this is unlikely to be the case.

some defect in her body' (Aulus Gellius, *Attic Nights* 4.3.1-2; MacLachlan, 2013, p. 53). This in itself may not have been a problem but there was a legal issue. In pre-classical Rome only the husband could bring about divorce and even then he would receive a financial penalty if he repudiated his wife for any other reason than a serious fault on her part (e.g. adultery) (Evans Grubbs, 1995, p. 226). Although his wife was blameless of any matrimonial offence, Carvilius Ruga wanted to avoid giving his wife the portion of his property that she was entitled to receive. The law decided he was not liable for this nor could the woman or her father claim back her dowry. Dionysius of Halicarnassus (2.25.7) tells us that after this Carvilius Ruga was hated by the people. As Evans Grubbs (1995, p. 228) has stated, although this case shows that divorce because of infertility was acceptable, the notoriety suggests that it was not commendable.

It could be argued that the evidence from ancient Greece shows a similar situation. Divorce for infertility occurred but leaving an otherwise blameless wife was not an honourable thing. This is perhaps emphasised by the case of Ariston who, despite being in his second childless marriage, seemingly placed the responsibility for infertility on his wives. The narrative built up around these cases of unproductive marriage is one in which the husband takes a high moral stance. He is either divorcing his wife to release her to have children with another man, or remaining married because she is a good wife regardless of a lack of children. Scholars have suggested that it was frowned upon for men to publically shame their wives' honour in the public sphere (e.g. Cox, 2011 citing Lysurgus 1.1-2 1.141, Lysias 12.69-70, Deinarchus 3.1; cf. Goldhill, 1994, p. 358-360). Whilst the men in these cases may be protecting themselves from accusations of deserting their wives, there may have also been protection afforded to the wife by proxy. That is to say that if the man took on at least some of the responsibility of infertility it was potentially more likely that the women could go on to remarry.

There is some debate over the effects that divorce had on the lives of women. Euripides has Medea claim (236-237) that divorce is discreditable for a woman and Menelaus similarly claims in *Andromache* that '[t]he other things a woman suffers are but secondary importance but if she

loses her husband she loses her life' (372-3; trans. Kovacs, 2005, p. 309).<sup>282</sup> Scholars have used such declarations as evidence that a divorced woman was subject to gossip about her behaviour and her status would therefore bring shame on her (cited in Cox, 2011; Scafuro, 1994, p. 163). Cox (2011), who like Dodds (1951) believes that ancient Athens was a shame culture in which one would evaluate oneself according to the way one was seen by others, with shame and honour being linked to one's reputation and social worth, further suggests that a wife could suffer public humiliation and be barred from the religious rituals of the *polis*.<sup>283</sup> However, other scholars have suggested that there was no such stigma attached to divorce (e.g. Pomeroy, 1975, p. 64; cf. Tetlow, 2005, p. 65). Thompson (1972, p. 221–222) notes that none of the orators casts aspersions on an opponent or female relative for being divorced.

While divorce on some grounds, such as adultery, probably would have harmed a woman's reputation there is no evidence that this was the case if divorce occurred due to a marriage lacking children. In some cases of divorce, husbands even helped to find new husbands for their former wives, for example in the cases of Timocrates (Dem.30) and Protomachus (Dem.57.41) who divorce their wives in order to better their financial position (Thompson, 1972, p. 224). In the case of Menecles (2.19) we are informed during the speech that his wife went on to remarry and had two children. Whether she was protected by Menecles' insistence that she was a good wife and that he was only divorcing her because of his advancing age, or whether a childless woman was not generally barred from remarriage, is something that cannot be surmised from the evidence available.

The evidence from ancient Greece suggests that remarriage either after a divorce or the death of a spouse was relatively common. In his survey of remarriage in the fifth and fourth centuries BC Thompson (1972, p. 211) suggests that '[r]emarriage was a significant factor in Athenian life'. He (1972, p. 218–219) identifies 50 remarriages from the works of orators and other literary

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<sup>282</sup> τὰ μὲν γὰρ ἄλλα δεύτερ' ἂν πάσῃ γυνή, ἀνδρὸς δ' ἀμαρτάνουσ' ἀμαρτάνει βίου

<sup>283</sup> Allen (1999, p. 372 n.5) has gone further and suggested that divorce was used by husbands as punishment against their wives. However, there does not seem to be evidence for this.



sources.<sup>284</sup> When a reason is given for the termination of the first marriage we find it is evenly split between divorce (16)<sup>285</sup> and death (17) (Thompson, 1972, p. 219–220). It would seem that second, or even third, marriages were often productive with 34 out of 53 remarriages resulting in at least one child (Thompson, 1972, p. 219–220). However, as 15 out of the 23 men had male heirs before they had children with their second wife it would appear that children were perhaps not always the main reason for a second marriage. However, Thompson (1972, p. 224–225) concludes that a high incidence of death and divorce meant that a great many wealthy Athenians remarried and that both widows and divorcees were expected to do so, with the basic purpose of remarriage being to raise a family whether or not the husband already had children. Once an Athenian woman was divorced or widowed it was expected she would remarry, and the prospect of growing old unmarried was dreaded (Thompson, 1972, p. 222–223). Pomeroy (1975, p. 63) suggests that the keeping of the dowry made remarriage even more likely.

Such evidence as exists for divorce and unproductive marriages in the classical era thus seems to be comparable to the medical texts in terms of blame; blame is deflected and there is protection from accusations. There is some distancing of blame from the woman, placing any potential blame for infertility on the male partner. However, this also protected the male from accusations of deserting his ‘blameless’ wife. Based on the (admittedly limited) evidence of divorces due to infertility, it would appear that in public at least a man would take at least some of the responsibility of infertility in the couple and this would afford protection to both his own and his wife’s reputation.

### Conclusion

The evidence from both the ancient medical texts and the wider ancient literature on unproductive marriages suggests that blame was associated with infertility in certain specific circumstances. However, the distancing between blame and infertility is striking both in the ancient medical texts

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<sup>284</sup> In total 53 people remarried with three people marrying three times. 30 of these people were women and 23 men.

<sup>285</sup> This figure is higher than the nine divorces cited by Cohn-Haft (1995, p. 2) as Thompson counts both partners when each remarried after a divorce.

and beyond. It is doubtful that women in ancient Greece were never held responsible for their infertility, and that there were no consequences for those women divorced due to reproductive failure. However, there is limited evidence that this was the case. Instead, our sources suggest that there was often protection from blame employed both inside and outside the medical texts. Significantly, this protection appears to have been intended largely to protect the males involved: the doctor from accusations of malpractice, and the husband from accusations against their moral judgement. However, whether intentionally or not, it would appear that women, too, benefited from this protection. This protection may be why, despite the ancient authors declaring the reason for marriage being the production of children, an unproductive marriage did not always end in divorce, nor did a divorce due to infertility appear to have been a barrier to remarriage for either partner.

## Conclusion

This thesis set out to undertake a full-scale study of infertility in the ancient medical texts with a particular focus on the Hippocratic Corpus. The study also sought to explore the relationship between blame, responsibility and infertility in the ancient medical texts with supporting evidence drawn from wider ancient Greek society.

The aim of the first part of this thesis was not only to give a detailed analysis of what infertility meant to the ancient medical writers but also to outline the causes and treatments given for reproductive failure in these texts. In order to be able to conduct such an analysis it was first important to understand both what infertility means to us today and what it may have meant to the ancient medical writers. I have shown that, for the Hippocratic writers infertility in its basic form, the failure of a couple to produce a living child, is the same as today. However, the underlying ideas how the body works, what each partner contributes to conception and the process of conception itself was fundamentally different.

I have also demonstrated that there are issues when using modern words to explain ancient ideas and that terms such as 'infertile', 'barren' and 'sterile' do not fit neatly into the ancient explanations of reproductive failure. As these terms are also used in translations of the ancient texts I showed that there are pitfalls in using modern medical terminology not only in cases of infertility but also in translations of these texts more generally. Nor is it only modern terms for infertility which can cause difficulties and have different meanings: in ancient Greek there were many different words for reproductive failure with different meanings depending on the context and any qualifying words alongside them. The first two chapters of this thesis showed that assumptions cannot be made either about how ancient medical writers viewed the body and reproductive failure or about the language used to describe this.

The causes and treatments given for infertility by the ancient medical writers highlighted these differences in the modern and ancient understanding both of the body and of infertility. The causes of infertility given by the ancient medical writers are numerous and varied as indeed the author

of *Diseases of Women* (3.213 L.8.414) informs us they are. The female partner is the focus of much of these discussions, in part because it is not only she who needs to produce the required material, but she who retains the seed, with conception and gestation taking place in her body. The causes of reproductive failure begin with the inability to produce the correct material for conception, and this is true of both partners. In addition, for women, fertility problems may be due to a failure to receive and retain the seed, usually because the mouth of the uterus is too open or too closed at the time of intercourse. The next obstacle is the condition of the uterus, which needs to retain the seed in order for conception to occur; if the uterus is not healthy then the seed may either be rejected or destroyed. The uterus must also be in the right condition to nurture the child for the nine months of gestation, including being able to expand to accommodate the growing foetus and providing enough menstrual blood for its nutriment. Although fertility and the female reproductive system have received much attention from scholars, to the best of my knowledge no study has provided a detailed analysis of these causes and treatments of infertility. I hope that this thesis not only offers such an analysis but also shows that some conditions of the reproductive system which have been linked to fertility issues, for example uterine displacement, were actually more of a concern to the Hippocratic writers for their effect on health than on fertility.

One of the main aims of this thesis was to show that, despite a lack of recognition in scholarship, not only was male infertility accepted as a possible problem by the ancient medical writers but also that there was also enough evidence to provide an analysis of male reproductive problems. In chapters 3 and 4 I outlined the various causes of male infertility given by the ancient medical writers and showed that male infertility was indeed recognised in antiquity. However, it was by no means discussed in the same level of detail as female infertility. In part this may have been because male involvement was restricted to the production of semen and the ability to have intercourse with a woman. As I showed, Aristotle, who, in his theory of conception has only the male providing semen and thus enhancing the male role in conception, does describe male infertility in greater detail than the Hippocratic authors, whose main theory of conception is based on both partners producing semen. I also suggested that the lack of treatment for male infertility

was due to male infertility not being seen as curable in the Hippocratic Corpus. However, the regimens for fertility given by the Hippocratic writers do show that male fertility was believed capable of being managed, to some extent at least.

This thesis also sought to discuss how responsibility for fertility was split between the two partners, as well as examining the role of the doctor. By exploring the evidence from healing sanctuaries and oracles I showed that treatment at healing sanctuaries appears to have been a female-led activity. However, the evidence from oracles shows that men were taking at least some responsibility for the couple's fertility, by asking the gods about their potential to become parents. With regard to the doctor's role in fertility, I suggested that the use of fertility regimens suggests that Hippocratic physicians perhaps wanted to become involved in a couple's fertility even before any suggestion of infertility may have been raised.

The final aim of this thesis was to explore the relationship between blame and infertility. I showed that, although blame was utilised by the Hippocratic writers, this seems to have been in specific circumstances relating to the importance of calling in a Hippocratic physician. Blame was used to suggest that women were either not calling in a doctor soon enough after their symptoms began or not following the advice of the doctor. Here, blame could be used to protect the doctor from accusation of mistreatment. However, there is also evidence that, in protecting himself, the doctor also afforded some protection to his patients. By emphasising the abundance of infertility, and the division of prognoses between natural causes of infertility and those stemming from disease, together with changing nature of a person's fertility status, both patient and doctor could thus be afforded protection. In exploring the effect that infertility could have on a couple's marriage I showed that this protection went beyond the ancient medical texts and can be found in the evidence for divorce in ancient Greece. In cases of divorce due to infertility, the husband generally takes some of the responsibility for the couple's infertility, particularly if they are advancing in age, but also emphasises his wife's good character and ability to look after the household even though she has not produced children. In these cases the husband appears to be wanting to show he is not deserting his wife and is of good moral character. Both in the ancient medical texts and

the wider literary sources, the evidence suggests that, whilst men may have been attempting to protect themselves, the women involved are also afforded some protection.

I believe that further work is now needed in order to fully understand the complexities of views of infertility in the ancient world. As is often the case this thesis has been limited in its scope. Although I have offered a comprehensive analysis of the causes and treatments for infertility in the Hippocratic Corpus I feel that certain areas such as the regimens for fertility and particularly the effect of food and drink on fertility could benefit from further studies. Due to limitations of space I have focused on the fifth and fourth centuries BC and the Hippocratic Corpus and the biological works of Aristotle, but I believe a study on infertility in other ancient medical authorities, especially Galen and Soranus, who were active in the first and second centuries AD, would also yield interesting ideas surrounding infertility.

Although the focus of this thesis has been on the ancient medical sources I believe I have shown that exploring non-medical sources can help us to understand some of the views on infertility offered by the ancient medical writers. Although I have made some use of non-medical evidence in this thesis, this has been limited to those sources which could help shed light on the views of the ancient medical writers. However, there are many other instances of infertility been mentioned oversight medical sources and I believe that these sources can potentially give us a greater understanding of the social response to infertility in the ancient world.

This thesis has shown that infertility in the ancient medical texts is by no means a straightforward issue. In the introduction to this thesis I stated that if we approach the ancient medical texts asking ‘what do these texts tell us about infertility?’ instead of ‘what do these texts tell us about fertility?’ the answers, and therefore our understanding of infertility, would be very different. I hope that my discussion of the issues surrounding infertility in this thesis has shown this to be the case and has demonstrated that infertility is a topic which needs to be studied not only as part of wider studies of fertility or of the ancient views on women’s bodies, but in its own right.

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